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ABSTRACT

In this paper the first descriptive results of a longitudinal study of organization and learning effects of 24 preservice teacher education programs are reported. Between August 1982 and November 1986 different kinds of qualitative as well as quantitative data were collected among 357 students and their 31 university supervisors and 128 cooperating teachers from the College of Education, University of Utrecht, the Netherlands. The paper opens with an introduction of the research questions and the policy context from which they arose. Then, after dealing with the model and the design used in the study, it presents research results about three issues: (1) conditions of the integrative curriculum design; (2) implementation of integrative curriculum design; and (3) "transition shock" and beginning teachers' classroom performance. As this study is still in progress, the paper concludes with a discussion of some tentative answers to the research questions. (Author)

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COOPERATION STRUCTURES IN PRESERVICE TEACHER EDUCATION PROGRAMMES AND THEIR EFFECTS ON BEGINNING TEACHERS' CLASSROOM PERFORMANCE

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In this paper the first descriptive results of a longitudinal study of organization and learning (effects) of 24 preservice teacher education programmes are reported. Between August 1982 and November 1986 different kinds of qualitative as well as quantitative data were collected among 357 students and their 31 university supervisors and 128 cooperating teachers from the College of Education, University of Utrecht (PDI-RUU), the Netherlands. The paper opens with an introduction of the research questions and the policy context from which they arose. Then, after dealing with the model and the design used in the study it presents research results about three issues:

-- conditions of integrative curriculum design,

-- implementation of integrative curriculum design and

-- 'transition shock' and beginning teachers' classroom performance.

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INTRODUCTION

A persistent problem in teacher education is that beginning teachers experience a 'transition shock' during their first year(s) of service (e.g. Corcoran 1981). The sometimes extraordinary stress that this phenomenon brings about in beginning teachers should in itself suffice to justify research in this area. However, there are more aspects of the problem that call for attention. Research has shown more than once that while prospective teachers become beginning teachers, they frequently move from a 'humanistic' towards a 'custodial' approach to teaching (cf. Hoy & Rees 1977) or, termed differently, from 'progressive' towards 'conservative' attitudes about teaching (Dann et al. 1978). This attitudinal shift (cf. Morrison & McIntyre 1973, p. 75-77) is typically interwoven with the more general issue of socialization into an institutionalized profession (Waller 1967, Lortie 1975, Lacey 1977).

Taken together these aspects confront prospective and beginning teachers as well as their educators with some formidable problems of ethical and ultimately political choice (Greene 1978, Giroux 1981). Teacher educators in the Netherlands customarily discuss these problems in terms of a dilemma phrased as 'education for today's or tomorrow's schools' (e.g. Smies & Van der Dussen 1986). What appears to be at stake is a problem with both technical and normative aspects. The *technical* aspects concern the acquisition of practical skills and theoretical knowledge as necessary ingredients of teaching competence. The *normative* aspects concern the nature of the socializing influence which beginning teachers can and do exert on their pupils.

Historically, it was predominantly the technical aspects that led the College of Education at the University of Utrecht (henceforth referred to by its Dutch abbreviation PDI-RUU)[(1)] to develop various extensions of its curricula. Until the 1970s the average teacher education curriculum in Dutch universities amounted to a situation where students -- as prospective teachers in secondary schools -- merely attended a number of quite loosely coordinated theoretical lectures and spent some 40 hours 'in the field' passively observing lessons taught by experienced teachers. Since the early 1970s this situation was gradually replaced by a more 'integrated' curriculum, which obliged students -- usually at the end of their studies in some academic disci-

pline -- to proceed through a series of alternating periods spent on college-based seminars and active teaching practice in schools respectively. In developing and implementing this 4-month curriculum the PDI-RUU was funded by the Department of Education and Science with fees for cooperating teachers, who were trained to provide triads of student teachers with clinical supervision in the manner conceived by Goldhammer et al. (1980). By the early 1980s this type of teacher education curriculum had become standard practice or at least the professed ideal in most universities in the Netherlands (Fontaine 1985). Moreover, it was endorsed by official government policy (ARCULO 1979 and 1980).

The developments sketched above were widely recognized as an improvement by those involved in teacher education in the Netherlands. Even so, the PDI-RUU staff felt that the transition from preservice to inservice teaching remained too abrupt for most students and ought therefore to be changed into a more gradual experience. Consequently, the institute sought to expand its curricula. For instance, since 1978 the Biology department has offered not only the usual 4-month programmes, but also experimental 6-month programmes, which allowed for a more gradual increase in the complexity of student teaching activities (Keuchenius 1979, Boersma & Koetsier 1980 and 1981). However, this did not seem to make the jump from the preservice pool into the inservice seas much less chilling for students. No adequate solution had as yet been found for the consequences arising from the sudden absence of the cooperating teacher from the beginning teacher's classroom and the often dramatic increase in the number of lessons to be given per week.

For these reasons a research grant was acquired in 1981 for the development of a new curriculum element comparable to the West-German 'Referendariat' (see for a national survey in the FRG Frech & Reichwein 1977). We will refer to this new extension of the curriculum by the term *'individual transition practice'* (henceforth to be abbreviated as ITP), because it was explicitly conceived as a means to bridge the gap between the existing preservice programmes and inservice teaching (Van Driel & Koetsier 1984 and Hooymayers et al. 1985).

The principal idea behind ITP is that the prospective teacher should learn to work individually (that is, no longer as a member of a clinically supervised triad) under circumstances as similar as possible to those of experienced teachers. The only difference with full-fledged service as a teacher remaining during ITP should be that students teach

from nine to twelve lessons per week and be given college-based supervision well as time and facilities for the study of pedagogical problems.

ITP, as the latest extension of university teacher education programmes in the Netherlands, will last approximately 14 weeks. The total duration of the curriculum will increase to twelve months. It is meant to come into force as from September 1987. Thus, a long-standing wish of teacher educators may become reality. Yet, in recent years as well as today, several political circumstances continuously cloud this perspective.

Firstly, a severe entrance selection will be introduced as a result of the profound restructuring of the Dutch higher education system now under way. Correspondingly, the number of students and staff will be drastically reduced(2). Secondly, since August 1983 the present centre-right Dutch government despite vigorous protests from the educational field *withdrew the fees for cooperating teachers*. Although in November 1984 the Cabinet somewhat clarified its policy on the future of university teacher education (Deetman & Braks 1984), it does not seem willing to reintroduce these fees for other than experimental purposes. From a survey carried out alongside the research to be reported in this paper we conclude that this withdrawal of cooperating teachers' fees has severely disrupted the PDI-RUU's working relationships with schools.

Since the academic year 1982-1983 the PDI-RUU's school-practice coordinator S. van den Heuvel and the author have recorded a number of simple facts about the goings-on in the institute's programmes. Each year twelve indicators were measured of *preservice programme conditions* which the majority of staff consider of vital importance for the quality of clinical supervision as practised in the schools. These indicators were categorized in four groups as shown in Table 1.1.

Computation of a Friedman two-way analysis of variance (Siegel 1956, p. 166-172; SPSSX 1986, Chap. 43) revealed that in the four years since the fees for cooperating teachers were withdrawn, the eight indicators italicized in Table 1.1 showed a significant change in what PDI-RUU staff feel is an unfavourable direction (see for more details section 4.1.1).

Few of the hazards sketched above could be completely foreseen in the spring of 1982, when the objectives for this research had to be specified. The staff committee assigned to do this(3) reasoned that if

I.	Work contacts between PDI-RUU and practice schools
Ia.	Percentage of practice schools more than 30 miles away from Utrecht
Ib.	*Number of coordination meetings held in Utrecht by each programme's university supervisor(s) and coordinating teachers*
Ic.	*Percentage of cooperating teachers present at coordination meetings*
Id.	Number of university supervisor's school visits per student-teacher subgroup
II.	Composition of student-teacher subgroups
IIa.	*Percentage of triads of student teachers*
IIb.	*Percentage of dyads of student-teachers*
IIc.	Percentage of solo student-teachers
III.	Number of cooperating teachers supervising one subgroup of student teachers
IIIa.	*Percentage of student-teacher subgroups with one cooperating teacher*
IIIb.	*Percentage of student-teacher subgroups with two cooperating teachers*
IIIc.	Percentage of student-teacher subgroups with three or more cooperating teachers
IV.	Qualification of cooperating teachers
IVa.	*Percentage of cooperating teachers without training in clinical supervision skills*
IVb.	*Percentage of cooperating teachers without experience in clinical supervision*

Table 1.1 Twelve indicators of preservice programme conditions

in the near future cooperating teachers were to carry out their clinical supervision task without the usual remuneration, it would be virtually useless to try and involve them in a project meant to *expand* preservice student teaching by means of ITP. At the time, rather than expansion the committee considered defence of the existing curriculum the most urgent task and it therefore decided to *reformulate the research objectives*. Under the impact of political adversity, the committee concluded that instead of becoming a project for the development of ITP the present research should aim for a detailed *description of the PDI-RUU's existing curricula* and for an *explanation of their effects on students*.

This reformulation of the research objectives was clearly motivated by the desire to know in what ways the productive working relationships with schools built up in about a decade of relatively undisturbed curriculum development might be retained and transformed in the years to come. After all, the academic year 1982-1983 then just ahead was the last in which these working relationships with schools could be observed in their undisrupted form. Coupled with this policy perspective was a scientific concern about the scarcity of empirical knowledge available concerning the question in what ways learning effects in teacher education actually *come about* (cf. for the Netherlands lately Tillema 1986 and for the USA e.g. Zeichner 1979). Together, this policy perspective and this scientific concern led to the specification of research questions presented in Table 1.2.

In order to make these questions amenable for empirical enquiry the staff committee mentioned above gradually developed a research model containing various factors which it considered relevant enough to operationalize[(4)]. As data collection according to the model proceeded, additional funds were made available, so that repeated observation of criterion as well as school context variables became possible. Data collection began in August 1982, four months after the start of the project, and was completed in November 1986, 21 months before *the project's deadline*. Thus, a *longitudinal approach* is being realized. The analyses that we are now carrying out should yield *detailed empirical knowledge about the effectiveness of the PDI-RUU's preservice teacher education programmes*. It is through this knowledge and a systematic interpretation of it that we eventually hope to contribute towards programme improvement.

1. In what ways can teacher education programmes counter the phenomenon of 'transition shock' in beginning teachers? In more positive terms: how can teacher education *make entry into the teaching profession a more gradual experience*?
2. Which *objectives* does the College of Education, University of Utrecht (PDI-RUU) actually *pursue* and *achieve* and what influences do *contextual factors* exert on this process?
3. *Which cooperation structures* between PDI-RUU and practice schools are *desirable* and *realizable*?
4. *Which ways of rewarding cooperating teachers*, both financially and otherwise, are *possible, desirable* and *realizable*?
5. Which consequences can and should answers to questions 1, 3 and 4 have for the *organization* and *content* of the college-based and school periods in *integrative teacher education curricula*?

Table 1.2 Research questions

In the following sections we will first present the model and the design used in the research. Against this background descriptive results will then be reported about three issues:
-- conditions of integrative curriculum design,
-- implementation of integrative curriculum design and
-- 'transition shock' and beginning teachers' classroom performance.
As the project is still in progress, this paper concludes with a discussion of *some tentative answers* to the research questions.

2. RESEARCH MODEL

The research model used in this project is depicted in Figure 2.1. It consists of eight *components*, each of which contains a number of *factors* for which labels are shown. In itself, each factor was operationalized as a set of variables measured by questionnaire items. As the research is concerned with learning processes occurring over a number of years, the *arrows* between the components in Fig. 2.1 are to be interpreted in both a *chronological* and a *logical* sense. In other words, the dimension of time runs from left to right and the arrows represent the cause-effect relationships under scrutiny. In fact, by getting to know these relationships we hope to provide answers to research question 1, which deals with the issue of how to make entry into the teaching profession a more gradual experience.

Broadly speaking we assume that in the implementation of preservice teacher education programmes by the PDI-RUU the following kinds of factors are involved.

A. Curricular programme conditions.
B1. Non-curricular programme conditions.
C1. Organization and content of cooperation during student teaching.
C2. Contents of college-based preservice seminars.
D1. Learning effects during preservice programmes.
B2. School context influences on beginning teachers' classroom performance.
C3. Beginning teachers' experiences and opinions concerning (entry into) the teaching profession.
D2. Learning effects during the first inservice years.

In the following outline of factors and their arrangement within components we will emphasize those factors which are especially relevant for this paper (in Fig. 2.1 these have been italicized).

A basic distinction in our modelling of the teacher education process is between *curricular* and *non-curricular conditions*. Both kinds of conditions were included in the model (see components A and B respectively), because for the PDI-RUU's supervisors it is a common experience that not only their own curricular decisions and actions (component A), but also less controllable, external influences (component B1) shape students' acquisition of teaching competence during preservice programmes. Similarly, what beginning teachers experience and learn during

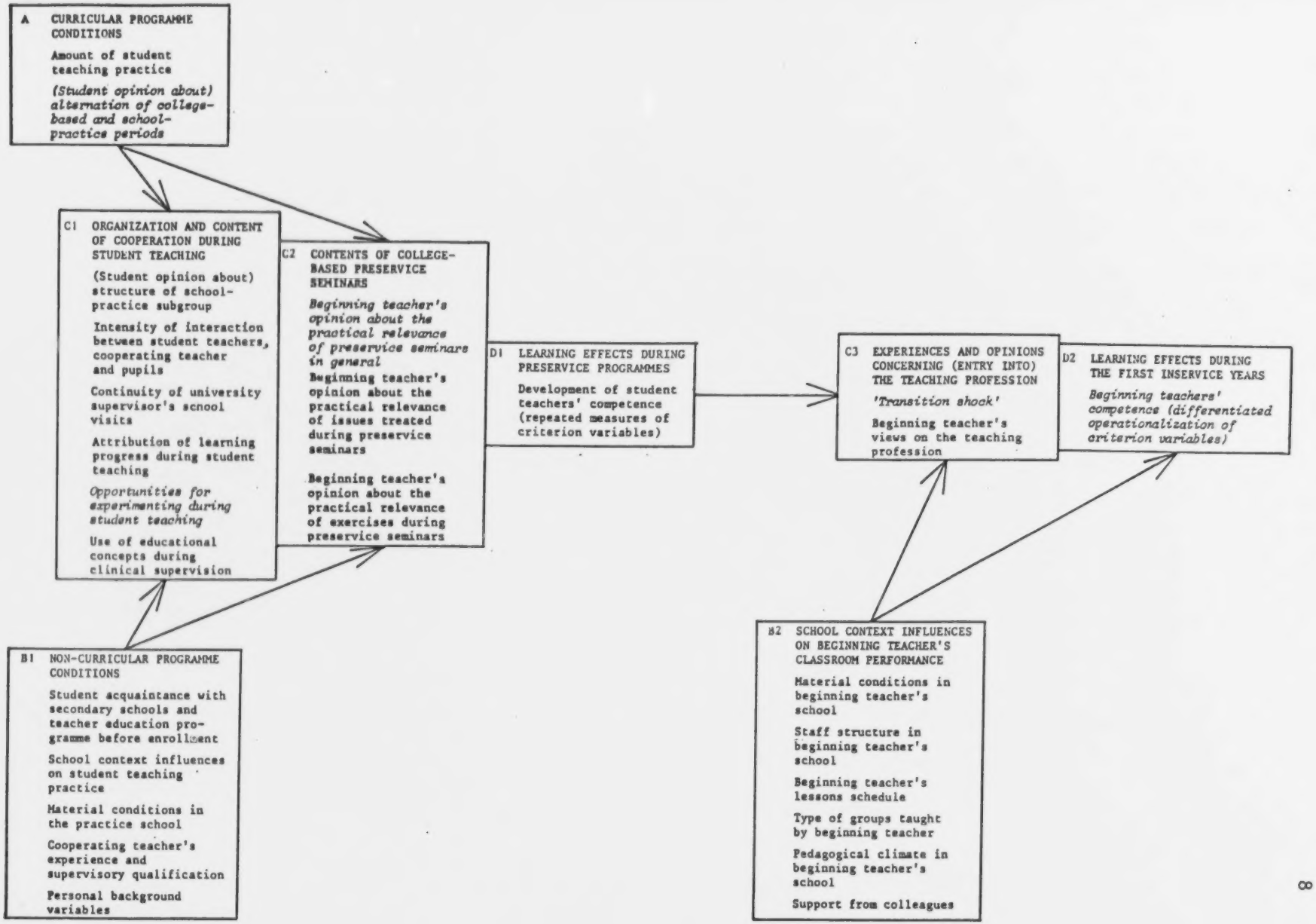

A CURRICULAR PROGRAMME CONDITIONS
Amount of student teaching practice
(Student opinion about) alternation of college-based and school-practice periods
C1 ORGANIZATION AND CONTENT OF COOPERATION DURING STUDENT TEACHING
(Student opinion about) structure of school-practice subgroup
Intensity of interaction between student teachers, cooperating teacher and pupils
Continuity of university supervisor's school visits
Attribution of learning progress during student teaching
Opportunities for experimenting during student teaching
Use of educational concepts during clinical supervision
C2 CONTENTS OF COLLEGE-BASED PRESERVICE SEMINARS
Beginning teacher's opinion about the practical relevance of preservice seminars in general
Beginning teacher's opinion about the practical relevance of issues treated during preservice seminars
Beginning teacher's opinion about the practical relevance of exercises during preservice seminars
D1 LEARNING EFFECTS DURING PRESERVICE PROGRAMMES
Development of student teachers' competence (repeated measures of criterion variables)
C3 EXPERIENCES AND OPINIONS CONCERNING (ENTRY INTO) THE TEACHING PROFESSION
'Transition shock'
Beginning teacher's views on the teaching profession
D2 LEARNING EFFECTS DURING THE FIRST INSERVICE YEARS
Beginning teachers' competence (differentiated operationalization of criterion variables)
B1 NON-CURRICULAR PROGRAMME CONDITIONS
Student acquaintance with secondary schools and teacher education programme before enrollment
School context influences on student teaching practice
Material conditions in the practice school
Cooperating teacher's experience and supervisory qualification
Personal background variables
B2 SCHOOL CONTEXT INFLUENCES ON BEGINNING TEACHER'S CLASSROOM PERFORMANCE
Material conditions in beginning teacher's school
Staff structure in beginning teacher's school
Beginning teacher's lessons schedule
Type of groups taught by beginning teacher
Pedagogical climate in beginning teacher's school
Support from colleagues

Figure 2.1 Research model

entry into the teaching profession is not only determined by the preservice curriculum, but also by school context influences (component B2). Of course, to incorporate these non-curricular conditions in the model complicates the research considerably, but to exclude them would probably have led to a neglect of socializing forces that may substantially contribute to the phenomenon of 'transition shock' (Zeichner & Tabachnick 1985).

Now, what happens within the context factors mentioned above? How should we conceptualize the actual learning processes of student teachers as they become beginning teachers? Here, we basically distinguish between *preservice learning activities* and *inservice experiences* on the one hand (components C1, C2, C3) and *learning effects* during and after preservice programmes on the other (components D1 and D2). This distinction is necessary to clarify what contributions preservice programmes by themselves can and do make to the acquisition of teaching competence. After all, this is the primary concern of teacher educators.

In sum, those variables grouped within components lettered A, B and C count as *independent*, while those variables grouped within components lettered D count as *dependent*. Condensed into one sentence we may say that the research model addresses the question *in what ways the cooperation between student teachers, cooperating teachers and university supervisors combines with content characteristics of preservice programmes as well as with factors in school environments to eventually produce specific types of classroom performance in beginning teachers*. We will now describe each component and the factors within it separately.

Component A operationalizes curricular conditions of preservice programmes, i.e. the constraints of time and place as planned by university supervisors, within which student teachers carry out their learning activities. The factors within this component describe the amount of student teaching practice and, by means of repeated measures, the alternation between college-based and school practice periods in preservice programmes.

In the PDI-RUU, this alternation is organized on the basis of two important curriculum principles. The *first principle* assumes that student learning processes will be most productive, when they consist of repeated cycles of preparing, teaching and evaluating lessons. The *second principle* requires that in each consecutive cycle the complexity

of the student teaching task should be increased. Thus, students go through four successive school-practice periods, which consist of observing experienced teachers' lessons, teaching partial and whole lessons by themselves and finally teaching one or sometimes two complete series of lessons on a theme of their own choice.

Component B1 comprises various non-curricular conditions of preservice programmes. These are basically of two kinds. To begin with, *personal background variables* were measured, i.e. participants' age, sex, school subject, educational experience and previous acquaintance with secondary schools and teacher education programme contents. Further more, data were collected about the influence of *non-curricular programme conditions*, i.e. about material conditions in practice schools and, perhaps more importantly, about a 'subcultural' factor meant to indicate to what degree school management and teaching staff were willing to facilitate student teachers' learning.

Component C1 can be seen as the core of the research model. Here, a *third curriculum principle* of the PDI-RUU is operationalized, namely the organization of preservice teaching practice in student triads receiving clinical supervision from a trained and paid cooperating teacher. Repeated measures were taken after each successive school-practice period regarding organization and content of the cooperation between student teachers, cooperating teachers and university supervisors as it took place in practice schools. Data collection was focused on factors such as intensity of interaction, continuity of university supervisors' school visits, students' opportunities for experimenting and the use of educational concepts in supervisory conferences.

The PDI-RUU curriculum principles mentioned above presuppose that what happens in practice schools should be related as closely as possible to the topics treated and exercises done during college-based seminars. For this reason, component C2 contains retrospective opinions obtained from beginning teachers about the practical relevance of preservice college seminars for their current inservice teaching.

Until now, we have outlined the main independent variables in the research model. Component D1 contains a set of eight dependent or *criterion variables* formulated in term of teaching skills. These were measured four times by asking students as soon as possible after each school practice period to what degree they thought they had progressed in acquiring each skill. Moreover, shortly after the conclusion of student

teaching cooperating teachers were asked the same question about each student they had supervised. The exact wording of the criterion variables involved is shown in Table 2.1 (the variable names in the left-hand column are Dutch acronyms).

After graduating from the PDI-RUU students were once more asked to fill out a questionnaire. If they had found employment as a teacher, they answered questions about their inservice experiences. These data include information about school context factors influencing their classroom work. Component B2 shows what kinds of information were gathered during entry into the teaching profession. In analogy to component B1 data were collected about working conditions as well as 'pedagogical climate'. For instance, questions were asked about the degree to which colleagues engage in innovative teaching activities and continued professional training.

More personally directed were the factors operationalized in component C3 about beginning teachers' inservice experiences. Here, an attempt was made to measure 'transition shock' as indicated by experiences in classroom interaction. Also, attitudinal items concerning beginning teachers' views on the teaching profession were used (derived from Lortie 1975). We took this approach, because we do not want to confine ourselves to a technical definition of 'transition shock' in terms of classroom discipline problems. The normative aspects of socialization into an institutionalized profession mentioned earlier appear to us equally important. In our opinion, these aspects tend to be neglected in current teacher education research in the Netherlands.

For the same reason the criterion variables in this research were operationalized in less neutral terms during entry into the teaching profession than they were during preservice programmes. The variables grouped in component D2 refer to the same teaching skills that were specified in component D1, but they describe in a more differentiated form ways of teaching that in the present Dutch secondary school system may be considered moderately innovative. We have taken this approach not only because the absence of explicit criterion variables may be a serious flaw in any educational research, but also because teacher education institutions rightly consider it one of their tasks to inject new ways of teaching into existing schools. The only problem is that frequently the actual goals of teacher education programmes either remain implicit or arouse controversy. In this respect the PDI-RUU is no exception.

ORGOWAK	1. Solving problems in the organization of (educational) activities
LEERSTO	2. Transmitting knowledge and stimulating insight in specific subject matter areas
FASERIN	3. Planning and carrying out (educational) activities in a premediated sequence
LESMAT	4. Selecting, producing and presenting learning materials
DWN	5. Selecting and using work forms
DIAGNOS	6. Evaluating learning and development processes in pupils
OMGAAN	7. Interacting with pupils in ways that stimulate (experiences of) active involvement
SPNUTSP	8. Critically investigating and if necessary modifying one's own way of teaching

Table 2.1 Criterion variables as measured during preservice programmes

We initially tried to solve this problem by organizing a seminar for the staff of the PDI-RUU's Biology department, who had initiated the research. On this occasion, the criterion variables as formulated in Table 2.1 were discussed and approved. Later, when the criterion variables had to be operationalized and measured once again during beginning teachers' entry into the teaching profession, inspiration was sought in various educational reform initiatives such as those aiming at bridging the gap between schools and society, enhancing pupil activity and responsibility in classroom learning, reorganizing school subject matter from static bodies of academic knowledge into substantive problems analyzable by means of generative concepts and last but not least inducing a shift away from merely product-oriented standardized assessment procedures towards more process-oriented and situationally valid assessment practices[(5)].

As a result, a differentiated set of criterion variables was used in the last questionnaire that PDI-RUU graduates filled out while they were employed as beginning teachers. Each variable was worded as a teaching activity, about which two questions had to be answered:

a) Does this teaching activity occur in your work? (with response categories 'yes' or 'no') and

b) If this activity occurs in your work, how much energy does it usually require from you? (with response categories on a continuous scale).

NIKLA	1.	Organizing (educational) activities during which pupils leave the clasroom	1
AFWIJRO	2.	Organizing (educational) activities which require deviations from the normal lessons schedule	1
LNINS	3.	Giving pupils a say in determining the subject matter to be treated	2
AFWYBOE	4.	Treating issues, problems, concepts, tasks, questions, in short elements of subject matter which are almost or completely absent from the usual textbooks	2,4
EIGMAT	5.	Making and using learning materials to replace or supplement prescribed textbooks, because they fit better with my own educational objectives	4
NIFAS	6.	Trying out new teaching sequences, i.e. making pupils carry out learning activities in a changed order, when this might improve their learning	3
GROEPSW	7.	Having pupils spend at least half a lesson's time on cooperation in small groups	5
VAKINT	8.	Coordinating lessons with those of one or more colleagues with a view to integrating school subjects (e.g. through precise agreement on lesson planning or through team teaching)	1,5
PO	9.	Organizing together with colleagues project work or similar educational activities (such as activities outside school, investigations by pupils)	1,5
PROEFW	10.	Discussing with pupils the results of various types of tests to such a degree of elaboration that their learning obstacles may be precisely identified	6
WOORDRA	11.	Using words instead of numbers to assess pupil achievement in the majority of classes	6
LNPERS	12.	Discussing personal problems with pupils	7
ORDEMOT	13.	Justifying discipline measures to pupils (e.g. by referring to the usefulness of concentration or by appealing to stamina or by discussing the consequences of disruptive behaviour for other pupils etcetera)	7
ANSPANS	14.	Retrospectively analyzing my own actions in straining situations with pupils (e.g. in case of important decisions or conflicts in classes)	8

Table 2.2 Criterion variables as measured during the first inservice years

A translation of these criterion variables is contained in Table 2.2 (the numbers in the column to the right refer to comparable variables in Table 2.1). Through their measurement we hope to ascertain what kinds of teaching the PDI-RUU's graduates actually practise.

All in all, the research object with which we have to come to grips is characterized by an overwhelming complexity. In developing the model presented above we have tried to reduce this complexity without wrecking ourselves either on the Scylla of unjustifiable simplifications and omissions or on the Charybdis of an unmanageable research design. The navigation on this journey was guided by three epistemological premises or theoretical perspectives: an ecological, a genetic and an activity perspective.

The *ecological perspective* assumes that the research object in the social sciences always consists of a social system which is at the same time internally structured and embedded within a wider, often institutional context. This requires the kind of 'relational analysis' recommended by Apple (1979; cf. with respect to teacher education Tabachnick 1981). The *genetic perspective* recognizes all learning as a set of processes which cannot be understood without studying their historical and developmental aspects. The *activity perspective* entails a focus on the actions of people as these express the continual tension between their motives on the one hand and contextual constraints on the other (cf. with respect to teacher education Zeichner & Tabachnick 1985). The latter two perspectives were inspired by the cultural-historical paradigm in anthropology and educational psychology as elaborated by such authors as Vygotsky (1969 and 1985), Lurya (1976), Rubinstein (1984), Davydov (1977), Leontiev (1979) and Holzkamp (1972, 1973, 1978 and 1983).

3. RESEARCH DESIGN

In this section an overview of the research design will be presented, with an emphasis on those points especially relevant for this paper.

Structurally, this project's design is similar to designs employed in earlier West-German research into the effects of teacher education programmes (Dann et al. 1978, Müller-Fohrbrodt et al. 1978 and Hinsch 1979). These projects involved the repeated measurement of attitudes about education in general and innovative teaching in particular. The unit of analysis was the individual as he or she developed into a beginning teacher. Our own design elaborates on this longitudinal approach in three respects. Firstly, preservice programme characteristics were more heavily operationalized. Secondly, not only students, but also their university supervisors and cooperating teachers provided the data for the project. Thirdly, not only written questionnaires with closed response categories, but also qualitative methods, particularly interviews and observations were used. The research deliberately combines qualitative with quantitative methods.

These elaborations were motivated by the three theoretical perspectives mentioned earlier. The *genetic perspective* obviously required a longitudinal approach. In trying to realize such an approach we felt that merely taking repeated measures at a few isolated moments would not suffice to capture the essence of developmental phenomena, i.e. their *transitional* character (Davydov 1977, Chapter 5). Our qualitative instruments therefore focused on the *flow* of events and on respondents' (mostly retrospective) accounts of these events.

The *ecological perspective* called for the collection of data in such a way that the relationships between the social systems involved could be adequately registered. This consideration is especially relevant for teacher education research, as it is always confronted with at least two separate social systems or subcultures, i.e. the teacher education institute and the schools where student teachers practise and beginning teachers come to work (cf. Fitzner 1979). For this reason, we wanted to involve in the research both university supervisors and cooperating teachers as representatives from these respective social systems. In fact, this methodological decision naturally followed from the long-standing cooperation between both groups of teacher educators in the PDI-RUU.

mode	sequence of data collection	instruments concerning research model component A,B,C and/or D		data sources		methods of analysis				sequence of data analysis
QUANTITATIVE	1	questionnaire at the start of preservice teacher education	A,B	357 students	from a quantitative sample of 24 preservice teacher education programmes	comparison of sample and subsample on descriptive statistics, analysis of data structure, hypothesis testing by means of repeated measures analysis and regression analysis, analysis of contrasting groups				10
	3	questionnaire after observation period in school practice	A,C							11
	4	questionnaire after separate lessons period in student teaching	A,C							12
	5	questionnaire after lesson series period(s) in student teaching	A,B,C							13
	6	questionnaire immediately after student teaching	A,B,C	128 cooperating teachers						14
	11	questionnaire immediately after programme	A,B,C	31 university supervisors						
	12	questionnaire between 9 and 26 months after programme conclusion	B,D	357 graduates						
QUALITATIVE	2	standardization of information from programme documents: concise version	A	31 university supervisors		description of programmes, individual learning experiences and beginning teachers' work (situation)	document analysis: summary, categorization and condensation of responses	refining empirical dimensions in the research model	formulation of hypotheses	1
	9	standardization of information from programme documents: elaborate version	A	12 university supervisors	from a theoretically selected qualitative subsample of 10 (out of the above 24) preservice teacher education programmes					2
	10	2-hour focused interview after programme	A,B,C							4
	8	1½-hour focused interview following receipt of questionnaire	A,B,C	17 cooperating teachers, opposite outliers on key variables						3
	7	1½-hour half-open group interview at the end of student teaching	A,B,C	2 student triads from 6-month programmes						5
	15	individual written student-teaching reports	C	11 beginning teachers, modal on key variables			comparison of 'strong and weak points' in classroom performance verification of interview statements: summary, categorization and condensation of responses			7
	13	3-to-7-unit classroom observation between 14 and 34 months after programme conclusion	D							9
	14	2½-hour focused interview	B,D							8
										6

Figure 3.1 Research design

Finally, the *activity perspective* led us to focus on actions rather than attitudes of respondents. The questionnaire items by means of which the research model was empirically anchored consistently sought to approach what students actually *did* in the course of becoming a teacher. This mode of measurement (cf. about this methodological concept Campbell & Fiske 1959) was intended to obviate the risk that people should verbally report other actions than they actually performed. However, this precaution does not counter certain objections against the measurement properties of quantitative instruments in the social sciences.

In our opinion, quantitative instruments are capable of no more than registering *degrees* on *prespecified* dimensions. We feel that the *nature* of educational phenomena and before all their *unpredictableness* had better be approached by qualitative means. However, to do this for all 24 programmes included in the project, which together were populated by 357 students, 128 cooperating teachers and 31 univeristy supervisors, was of course impossible. Instead, we decided to carefully select subsamples of cooperating teachers, university supervisors and graduates for *interviews and observations*. The methodological task in collecting and analyzing our qualitative material is to capture the wealth of actions and concomitant motives, experiences, opinions, in short the human subjectivity with which students and supervisors realize the process of teacher education.

Before relating how we ventured upon this task we think it is advisable to give the reader an overview of the instruments, data sources and methods of analysis used in the research. These are listed in Figure 3.1, for quantitative and qualitative data separately. Reading this figure from left to right will show which instruments were used, from which sources data were collected and by which methods these data are being analyzed.

Our *research strategy* becomes apparant from the marginal columns in Figure 3.1, which specify the order in which the procedures of data collection and analysis take place. What we are after is first to provide a qualitative description of activities carried out by the main participants in teacher education, then to derive hypotheses from this description and finally to test these hypotheses through quantitative analyses. At present, parts of analyses 6 to 10 and analyses 12 to 14 remain to be carried out.

School subject	Programme number	QUESTIONNAIRE SAMPLE Number of respondents US	CT	BT	INTERVIEW SAMPLE Number of respondents US	CT	ST	BT	Remarks
Modern languages (a)	1	1	5	15					
	2	1	5	15					
	3	1	5	15	1	2		2	
	4	1	0	20					parttime evening group for inservice teachers
Dutch	1	1	5	15	1	2		1	
	2	1	5	15					
Classical languages(b)		1	3	7					
Physics	1	1	5	15				1	
	2	1	5	15	1	2			
Mathematics		1	5	15	1	2		1	
Chemistry		2	7	18	1	2		1	
Biology								1	partial pilot interview
	1	2	8	15					parttime day group for inservice teachers
	2	3	5	15					
	3	2	5	15	2	2		1	
	4	2	5	15			3		6-month programme, student triad interview
	5	2	5	15	2	1	3	1	6-month programme, student triad interview
Geography		1	5	16	1	2		1	BT teaches different subject
History	1	1	5	15	1	1		1	BT teaches different subject
	2	1	5	15					
Social studies	1	1	9	19	1	1		1	
	2	1	10	17					
Religion	1	1	6	13					
	2	1	5	13					
Music		1	5	9					
TOTAL	24	31	128	357	12	17	6	12	

Notes: (a) Modern languages = English, German, French, Spanish
(b) Classical languages = Latin, Greek

Abbreviations: US = university supervisor
CT = cooperating teacher
ST = student teacher
BT = beginning teacher

Table 3.1 Composition of questionnaire and interview samples

The descriptive results to be reported in the following sections stem from analyses 1 to 6 and 10. For a good understanding of these results it is necessary to know about the selection of interviewees, the kinds of questions they were asked and our procedures for analyzing and reporting the results.

Table 3.1 displays the composition of the samples in this research. The staff committee which supervised the start of the project decided that all 24 programmes beginning in the second half of 1982 should be surveyed by means of questionnaires. We will refer to the respondents in these 24 programmes as the *questionnaire sample*. From this sample a selection of twelve university supervisors, 17 cooperating teachers, two student triads and twelve beginning teachers were interviewed. We will refer to these respondents as the *interview sample*. In order to improve our chances of obtaining interview results suitable for deepening our understanding of questionnaire results we employed the following selection criteria for including respondents in the interview sample.

University supervisors were selected so that *ten PDI-RUU departments* of different size were represented. Care was also taken to include a reasonable diversity of school subjects in the interview sample. A third criterion was that university supervisors with a relatively long experience should be interviewed and a fourth criterion that the types of schedules they used in their preservice programmes should be as varied as possible.

For each of the programmes thus selected *two cooperating teachers* were interviewed(6). They were selected on the basis of their scores on certain key variables concerning the PDI-RUU's cooperation with schools. In an attempt to maximize our opportunities for exploring these variables *along their whole range* we chose to approach those cooperating teachers for interview who scored as differently as possible on the variables summarized in Table 3.2. We termed these the *selection variables*.

We had originally intended to select *beginning teachers* for interview according to the same rationale followed in selecting cooperating teachers. However, this would have overstrained our research resources, so we decided to select *just one* beginning teacher for each of the programmes in the interview sample. Beginning teachers were selected so that their scores on key variables concerning their inservice practice would maximally approximate the *modes* found for their colleagues of the

SPDOPL	having participated in a PDI-RUU training in clinical supervision skills or not
ERVAR	having more or less than four years' experience as a cooperating teacher
ORGKONT	degree of satisfaction about organizational contacts with the PDI-RUU
PDISTEUN	degree of satisfaction about the PDI-RUU's support in carrying out the clinical supervision task
IMPULS	amount of enrichment in personal development as a teacher experiences through the clinical supervision task
VDOZ	suggesting topics for collaborative research with PDI-RUU staff or not
PDIOPDR	opinion about the usefulness of student teaching tasks as prescribed by university supervisors
NIETKLAS	perception of the amount of opportunities offered by the practice school to student teachers
REAKKOLL	perception of colleagues' willingness to facilitate student teachers' learning
STIND	preference for supervising students individually vs. in dyads or triads
STVOORB	degree of involvement in student teachers' lesson preparation

Table 3.2 Summary of selection variables for cooperating teacher interviews

same school subject in the questionnaire sample. These selection variables for beginning teacher interviews included criterion variables 2, 4, 7 and 14 from Table 2.2 and variables concerning work conditions, views on the teaching profession and the practical relevance of preservice programmes (see for a summary Table 3.3).

The interviews were *conducted* as follows. The interviews with *university supervisors* were prepared by collecting all available written documents that described each supervisor's programme. In a minority of cases where these documents did not exist a pre-interview was made with the supervisor concerned to collect the necessary data. Once complete, the programme information was recorded in standardized diagrammes, which were sent to the supervisors chosen for interview (see in Figure 3.1 instrument with sequence number 9). The interviews took place in the PDI-RUU and lasted an average of two hours. The first part of each interview was used to verify the standardized programme description.

SEXEST	gender
URENPW	number of lessons taught per week
LLNPKLAS	average number of pupils per class
LOKAAL	judgment of (in)sufficiency of equipment in most-used classroom
PROFSAMW	amount of practical benefits derived from cooperation with colleagues
STRENGH	judgment of severity of discipline maintained in the school as a whole
HARDOPTR	amount of harsh discipline measures used in excess of personal preference
LKZEKERH	degree of confidence felt during classroom interaction
VERNIBER	degree of skepticism regarding established teaching practices
LLVERAND	estimation of the potential influence of education on pupils' development compared to genetic and environmental factors
LOPRAREL	opinion about the degree to which ideals propagated in preservice teacher education had better be forgotten during inservice teaching
IPNUT	amount of benefits for reorganizing own ways of inservice teaching derived from issues treated during preservice seminars

Table 3.3 Summary of selection variables for beginning teacher interviews (other than criterion variables)

During the remainder of the interview this description served as a useful frame of reference.

The interviews with *cooperating teachers* took place in their schools or homes and lasted an average of one and a half hour. Many of the questions discussed took their starting point in respondents' scores in the questionnaires they had completed earlier (see in Figure 3.1 the instrument with sequence number 3). Usually, this interview procedure quickly produced highly concrete examples to illustrate the more general statements made.

A similar approach was taken in interviewing *beginning teachers*. To lay a basis for the interview we asked each of them if we could visit their classes for one school day and conduct the interview immediately afterwards. Almost without exception this request was granted both by the beginning teachers themselves and by their school directors. During

classes we observed both teacher and pupil behaviour using a format derived from the criterion variables[7]. After the lessons we briefly systematized these observations and used them together with questionnaire responses (see in Figure 3.1 the instruments with sequence numbers 12 and 13) to achieve maximum concreteness and depth in the interview. This procedure worked quite well, for often it was not only the interviewer, but also the interviewee who referred to the events of the day to clarify his or her experiences as a teacher. We think this combination of observation and interview has reduced the risk of possible discrepancies between words and deeds. The interviews with beginning teachers took place in their schools and/or homes and in some cases, when time was short, in a café or even during the train ride back home from work. The average duration of these interviews was two hours and 45 minutes.

Although in all conducted interviews the questions asked were of the half-open type, university supervisors took the greatest liberties in digressing from the interviewer's points of interest. Even so, we think we succeeded fairly well in achieving a close conceptual alignment between dimensions explored in the interviews and in the questionnaires. We feel reasonably confident that *the research model presented earlier reflects not only our quantitative, but also our qualitative data.*

The collected interview data were *analyzed* as follows. The interviews with cooperating teachers were summarized from audiotape on *standard forms* for each question separately. The summaries produced were then authorized by interviewees. The interviews with university supervisors and beginning teachers were literally transcribed from audiotape, authorized by interviewees, indexed per question and then summarized on *standard forms*. In producing these forms we used the following procedure[8].

First, provisional summaries were made of all answers to a question. Each of these summaries followed the sequence of the interviewee's statements. Then, all responses given were studied for *common dimensions* and *related topics*. Extracting these dimensions and topics from the material was a crucial step by which we hoped to find empirical response categories that would maximally reflect the subjective experience of the interviewees[9]. After determining and labeling these categories we reorganized the provisional summaries to fit in adjacent columns on *comprehensive standard forms*, using one column for each cate-

gory that had emerged. What we will report in the following sections are the findings that resulted from studying each column.

Having interviewed three different groups of respondents we are in a position to compare findings on silimar issues from different perspectives. This is why in our reporting format we will draw findings together from the three groups for each of the issues announced in the introduction. Moreover, having collected the interview data and the questionnaire data according to the same research model we are in a position to judge in how far the measured variables correspond in content to the empirical response categories found in the interviews. These categories should throw some light on the *content validity* of the variables measured in the questionnaire sample.

If the variables measured in the questionnaire sample tapped the same or similar dimensions as emerged in the interview response categories, we can have more trust in the relevance of these variables to the research questions. Of course, insofar as the measured variables tapped other dimensions than emerged in the interview response categories, we have missed the bull's eye. Those variables that reasonably correspond to dimensions which emerged in the interview response categories have received from us the epithet 'relevant'.

In order to justify this step, we sought two kinds of evidence. Firstly, for an interview response category to have firmly demonstrated the existence of a dimension we required that at least half the respondents should have made statements about it. Secondly, for the variable(s) *designated as relevant* to this dimension we checked if interviewees and noninterviewees had scored differently to a significant degree. This was done by means of a crosstabulation with a chi square test on each relevant variable (Siegel 1956, p. 104-111; SPSSX 1986, p. 336-354). When no significance was found, we felt encouraged to base our interpretations on a linkage of qualitative and quantitative findings pertinent to the same research issue.

By making the two checks described above we hope to reach conclusions that derive their validity from the different strengths of qualitative and quantitative data collection, that is depth of understanding on the one hand and generalizability on the other (cf. Berger 1974, Chapters 1 and 3). In order to guard against overgeneralizations we will in this paper confine our universe to integrative teacher education curricula as developed by the PDI-RUU.

BT 14	*interview question(s)*	C.2.3 b c	Does it occur in this school that you have to *do things which you cannot really endorse yourself?* (if so, probe) What kinds of things and how do you resolve them?		
	a posteriori response categories	discipline measures taken in excess of personal preference	(degree of) adjustment and critique	wishes for change	
	number of responses per category out of a total of 11	5	10	5	

BT 12	*relevant variable*	HARDOPTR	To what degree do you find yourself forced by pupil reactions to take harsher discipline measures than you would personally prefer (e.g. removing someone from the classroom, using impositions on pupils and the like)?
	a priori response categories		(0) slightly ——————— considerably (7)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	135	17.8	5	3.47	2.25	.19	p = .0104
IS	11	54.5	5	5.18	1.47	.44	

Table 3.4 Tensions between discipline measures as desired and as practised

To give the reader an idea of how we intend to use this kind of linkage in interpreting qualitative and quantitative findings we will conclude this overview of our research design with an example of the reporting format chosen for the following section. This format is based on a comparison of responses to interview questions and questionnaire items similar in content.

Table 3.4 summarizes the responses to one pair of interview questions and one questionnaire item about the phenomenon of 'transition shock'. To enable the reader to judge in how far both types of questions cover the same empirical dimension we have included in the table *literal translations* of their original wording. The left-hand column in the table specifies the instruments in which the questions appeared by means of an abbreviation for the data source involved (cf. Table 3.1) and the instrument's sequence number (in Fig. 3.1).

Then, for both types of questions the *response categories* are shown. For the interview questions these categories and their labels were determined *a posteriori*, that is *after and on the basis of* the interviewees' responses, in the way described earlier in this section. The response categories for the questionnaire items were by definition determined *a priori*, that is *before and uninfluenced by* respondents. Most of the questionnaire items were in the form of continuous 8-point scales[(10)], for whose extremes the numerical codes are shown between brackets. A number of other questionnaire items have two or more discrete response categories. These will be specified when necessary.

Finally, for both types of questions a number of *statistics* are given. For the interview questions the total number of interviewees and the number of responses falling in each response category are shown. For the questionnaire items statistics describing response numbers and central tendencies have been tabled for the questionnaire and interview samples separately (abbreviated as QS and IS respectively). It thus becomes possible to compare between the frequency distributions found for the interviewees and those found for the total group to which they belong. To sharpen this comparison the results of testing for differences between interviewees and non-interviewees (according to the rationale described earlier) are given in the form of p values. In sum, the format of this table should lay the basis for comparing between interview findings and central tendencies found on what we consider to be relevant variables in the questionnaire sample.

To illustrate the use of our reporting format we now turn to a brief exploration of the research results shown in Table 3.4, leaving all elaboration for the next section. Our analysis of the interview question probing for teacher behaviours more of less discrepant with personal preferences showed that five out of the eleven beginning teachers interviewed have taken certain discipline measures against their will. In all five cases the beginning teacher had to shape pupil behaviour in ways prescribed by the school management. However, in carrying out such tasks varying degrees of liberty existed for the ten interviewees who made statements about this aspect of transition shock. At the lower extreme of the continuum concerned one beginning teacher was found working under a strict school regime with checks and controls not only on such pupil behaviours as entering and leaving the school building, prayer and eating candies, but also on the teacher's whereabouts during the school day and his or her actual class room work. At the other extreme of the continuum a beginning teacher was found who felt he had anough autonomy to allow pupils to leave the classroom before the end of the lesson, if he wanted to. Those beginning teachers who were in the middle of the continuum recounted how they tried to manage the tension between actions expected of them on the one hand and their personal views about how pupils should be treated on the other.

Finding ten interview responses ranging along this common dimension led us to conclude that the degree to which beginning teachers feel forced to shape and discipline pupils' behaviour in excess of personal preference is a variable quite relevant to our first research question (see Table 1.2). Consequently, a comparison between the frequency distributions found for QS and IS on the variable HARDOPTR should give us some idea of how widespread the reported kind of disciplining behaviour is among PDI-RUU graduates.

Now, from the bottom rows of Table 3.4 it appears that discipline measures taken in excess of personal preference do constitute a real problem among QS respondents, but to a lesser degree than among IS respondents. An inspection of the QS and IS frequency distributions revealed that the significant deviation between IS and non-IS found in this case can be traced to an overrepresentation of scores 5 and 7 among interviewees. The image appearing from the interview responses should therefore -- to borrow an expression from photography -- be seen as an enlargement of a real phenomenon. As HARDOPTR was a variable used in selecting beginning teachers for interview, we suspect it exerted a considerable influence on the composition of the interview sample.

4. RESULTS

Before reporting results about integrative curriculum design as practised by the PDI-RUU we present in Table 4.1 figures about the response and non-response in the questionnaire sample.

Respondent group	Instrument sequence number in Fig. 3.1	Number of valid cases	Non-response percentage	Adjusted non-response percentage	Questionnaire not administered in: number of programmes	Questionnaire not administered in: number of cases
31 university supervisors	11	27	12.9	10	1 (a)	1
128 cooperating teachers	6	116	9.4		1 (a)	
357 student teachers	1	343	3.9		0	0
	3	160	55.2	2.4	13	193
	4	289	19	10.2	2	35
	5	325	9		0	0
357 beginning teachers	12	135	62.2	8.8 (b)	0	0

Notes: (a) Questionnaire was not administered in one parttime programme without cooperating teachers
(b) Non-response percentage for beginning teachers was adjusted for the 209 graduates who gave notice of not having found or applied for a job in teaching

Table 4.1 Response and non-response to questionnaires

Response was generally satisfying. During data collection we took several measures in the hope of achieving this. First of all, we kept all respondents informed about the project's progress by sending them a two-page interim report about once a year. Secondly, instruments 1, 3, 4 and 5 for students were administered as part of their preservice seminars in the PDI-RUU building. The author was present on about 80% of these occasions and when necessary answered student questions about the questionnaires and the research in general. The remaining questionnaires (instruments 6, 11 and 12) were mailed with a postage-free return envelope and followed by two reminders for initial non-respondents. Moreover, in the case of cooperating teachers the second reminder was followed by a telephone call.

For the two parttime programmes in the project (cf. remarks in Table 3.1) instruments 4, 6 and 11 were considered inapplicable, mainly be-

cause these programmes' schedules deviated too far from those of the other programmes. For this reason instruments 4, 6 and 11 were not used in the parttime programmes. To account for this reduction of the total number of respondents an *adjusted non-response percentage* was included in Table 4.1, which shows how many people actually received a questionnaire but never returned it.

The only instrument that should have been administered to considerably more people than was actually done is the one with sequence number 3, a questionnaire for student teachers after returning from their first (observation) period in practice schools. This omission could not be avoided, as time was too short to develop the instrument (cf. the introduction about the reasons why data collection had to begin within a few months after the project's start). The number of 135 valid cases for the beginning teacher questionnaire was reached in two rounds of data collection, the first in March 1984 and the second in February 1985. The second round increased the initial response by 12%[11]. From these data we came to know that 209 PDI-RUU graduates had not found or applied for a job as a teacher. To account for this fact an adjusted non-response percentage was included in Table 4.1, which shows how many people actually received the questionnaire but never returned it.

4.1 Conditions of integrative curriculum design

In this section we will first of all discuss which meanings the term 'integration' may have when applied to higher education in general and teacher education curricula in particular. Then we will report figures about the consequences arising from the Dutch government's withdrawal of cooperating teachers' fees in the summer of 1983 (cf. the introduction). Finally we will present interview results concerning the ways in which PDI-RUU staff schedule their preservice programmes. In other words, this section deals first with non-curricular, then with curricular conditions of preservice teacher education programmes.

In the early 1970s, when debates about the reform of teacher education in West-Germany were in full swing, the term 'integration' had acquired almost magic qualities. Looking back on these debates Günther & Massing (1980, p. 551) outline six meanings of 'integration' as used in an important national summary document for the FRG (BAK 1970). This document stated that teacher education reform should firstly anticipate

the integration of different school types in 'Gesamtschulen', that is the type of comprehensive secondary schools where all pupils until the age of 16 follow a common curriculum (cf. for the Netherlands Vos et al. 1985). Secondly, all teacher education curricula should be implemented by one integrated type of institution on college level. Thirdly, the process of becoming a teacher should be a continuous process, in which each stage serves as a logical preparation for the next. Fourthly, a professional perspective on teaching should be guaranteed by an integration of theory and practice. Fifthly, the definition of school subjects should not be dictated by the structure of scientific disciplines, but should be determined by the need for a substantive coherence of school subject matter. Finally, the teacher education process itself should be based on an integration of enquiry and learning.

In terms of these distinctions it may be said that the PDI-RUU is the first and largest teacher education institute in the Netherlands to have realized the second meaning of 'integration', i.e. coordination of as many school subjects as possible within one institution on college level (cf. Note 1). As mentioned earlier the working relationships with practice schools built up by the institute since the 1970s have undergone some serious changes as a result of governmental withdrawal of cooperating teachers' fees. Since this withdrawal eight of the twelve indicators that we used in an attempt to measure these changes (see Table 1.1) have shown significant differences over time. Table 4.1.1 contains the figures for these findings.

Between 1983 and 1986 a serious decrease has occurred in *cooperating teachers' qualifications*. After the withdrawal of their fees many trained cooperating teachers understandably ceased their contribution to the PDI-RUU's programmes. Finding other teachers to replace them was a hard job for the institute's school-practice coordinator, especially during the period of more than two years during which compensatory legislation obliging teachers to cooperate in teacher education programmes had not yet been effected. The influx of new cooperating teachers that was nonetheless realized caused a highly significant decrease of 38% in the level of training in clinical supervision skills among the whole group cooperating with the institute (see indicator IVa). In the same way the percentage of cooperating teachers with *experience* in clinical supervision was reduced by 37 (see indicator IVb).

Almost equal in size was the significant shift that occurred from

Indicators of PDI-RUU curricular conditions	Means over 12 departments in consecutive academic years 1982-1983	1983-1984	1984-1985	1985-1986	Significance of changes over time* 1982/3-1984/5	1982/3-1985/6
I. Work contacts between PDI-RUU and practice schools						
Ia. Percentage of practice schools more than 30 miles away from Utrecht	17.83	23.75	28.58	16.67	.3050	.0979
Ib. Number of coordination meetings held in Utrecht by each programme's university supervisor(s) and coordinating teachers	2.38	1.54	.86	.44	.0065*	.0005**
Ic. Percentage of cooperating teachers present at coordination meetings	67.33	33.67	20.50	21.91	.0005**	.0017*
Id. Average number of university supervisor's school visits per student-teacher subgroup	2.63	2.71	2.34	2.50	.2476	.4402
II. Composition of student-teacher subgroups						
IIa. Percentage of triads of student teachers	83.08	57.08	47.67	48.33	.0058*	.0034*
IIb. Percentage of dyads of student teachers	13.17	40.58	45.75	49.67	.0096*	.0032*
IIc. Percentage of solo student teachers	3.75	2.33	6.42	2.00	.1032	.1851
III. Number of cooperating teachers supervising one subgroup of student teachers						
IIIa. Percentage of student-teacher subgroups with one cooperating teacher	89.25	76.17	71.25	76.67	.0030*	.0024*
IIIb. Percentage of student-teacher subgroups with two cooperating teachers	1.17	11.58	20.58	17.50	.0002**	.0001**
IIIc. Percentage of student-teacher subgroups with three or more cooperating teachers	8.33	12.00	6.83	5.83	.0380	.0643
IV. Qualification of cooperating teachers						
IVa. Percentage of cooperating teachers without training in clinical supervision skills	14.00	50.42	64.25	51.83	.0009**	.0002**
IVb. Percentage of cooperating teachers without experience in clinical supervision	6.17	43.33	50.25	44.00	.0009**	.0003**

* Note: One or two asterisks in the two right-hand columns denote a significance of $p<.01$ and $<.001$ respectively, as computed by means of Friedman's two-way analysis of variance (Siegel 1965, p. 166-172; SPSS-X 1986, p. 822-823)

Table 4.1.1 Consequences of withdrawal of cooperating teachers' fees

student *triads* to *dyads* being supervised in practice schools. The percentage of triads was reduced by 34 and the percentage of dyads raised by 36 (see indicators IIa and IIb respectively). This shift reflects measures taken by school management and PDI-RUU staff to reduce cooperating teachers' work load in partial compensation for the disappearance of their fees. Another change in the implementation of PDI-RUU programmes meant to reduce cooperating teachers' work load consisted of *having two or even more teachers supervise students* instead of one teacher. Here too, a significant shift occurred (see the 13% decrease in indicator IIIa and the 16% increase in indicator IIIb).

Last but not least the *number of coordination meetings* held in Utrecht by each programme's university supervisor(s) with cooperating teachers was significantly reduced by 38% (see indicator Ib). Quite a few of these meetings had to be cancelled, because cooperating teachers no longer found the opportunity to travel to Utrecht and discuss their work there with colleagues. The meetings that were still held suffered a significant 42% setback in *attendance* (see indicator Ic).

From these findings we conclude that since the withdrawal of cooperating teachers' fees in 1983 the organizational conditions for the PDI-RUU's preservice programmes have deteriorated in the sense that fewer opportunities now exist for university supervisors and cooperating teachers to share and match their ideas about curriculum goals and principles. At the same time large holes have been knocked in the well-established practice of clinical supervision of student triads by trained and experienced cooperating teachers. As their number has seriously dropped and a shift from triads to dyads has occurred, opportunities for feedback to student teachers must have thinned out.

To counter these negative tendencies as far as possible PDI-RUU departments have taken *five compensatory measures*. To begin with, university supervisors have intensified their visits to student teachers' schools and lessons. Secondly, during school-practice periods more occasional one-day seminars were organized in the institute to support students' activities in schools. Thirdly, more attention was paid during college-based seminars to training students in evaluating each other's lessons without the help of the cooperating teacher. In the fourth place supervisory conferences were held in the institute to replace or supplement clinical supervision in the schools. Finally students invested more of their time and energies in assisting their

cooperating teachers in their daily work, more or less as an alternative reward for their participation in PDI-RUU programmes.

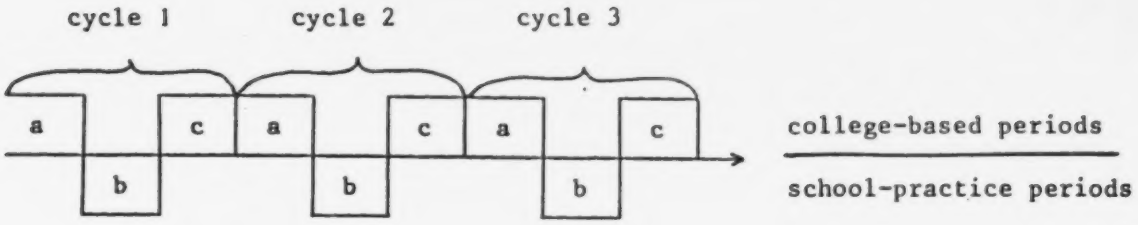
It is hard to gauge the exact influence of these measures on the learning processes in student teachers, but we feel rather safe in saying that less clinical supervision is now being practised in the schools and more supervision 'from a distance' is being practised in the institute. This means that at present less feedback to student teachers is based on direct observation of their teaching than was the case in 1982-1983.

The findings presented above have resulted from a survey carried out alongside the main project presented in this paper[12]. The data in this project concern the PDI-RUU's programmes as implemented in the last year before cooperating teachers' fees were withdrawn, that is in a time when conditions were relatively favourable for realizing 'integration' in the third and fourth meanings of the term quoted at the beginning of this section. In fact, our research questions are confined to these meanings of 'integration'.

In other words, we want to study teacher education as a continuous process whose primary characteristic is the integration of theory and practice. In doing so we think it is useful to distinguish between two levels of enquiry: 'integration' as a set of measures for the implementation of curriculum and 'integration' as the intended consequences of these measures in individual student teachers, i.e. as learning effects. In fact, our research is concerned with the relationships between these two levels. Now, focusing first on the curriculum level we may ask the question in what ways PDI-RUU teacher educators attempted to influence these relationships.

From our document analyses (with sequence numbers 1 and 2 in Fig. 3.1) it became clear that most programmes in the study were designed according to a *cyclical model* as represented in Figure 4.1.1[13]. This means that students proceed through a number of cycles, in which the complexity of their activities increases in the way referred to earlier. Cycle 1 revolves around observation in school, cycle 2 around teaching separate partial and/or whole lessons and cycle 3 around teaching a short and/or a longer series of lessons. Each cycle in itself can be seen as subdivided in three stages:

a) a college-based preparation stage,
b) a school-based teaching stage and
c) a college-based evaluation stage.



Stages: a) preparation
b) action
c) evaluation

Figure 4.1.1 Cyclical programme model

In practice, the college-based evaluation and preparation stages are merged with one another, for when students return from their practice schools to the institute, they frequently exchange teaching experiences and then use this exchange as a basis for preparing the following school-practice period.

Table 4.1.2 gives an overview of university supervisors' interview responses regarding cycles in their programmes. The question shown in this table was meant to verify our standardized programme descriptions, in which we had tried to visualize the kind of cycles diagrammed in Fig. 4.1.1. In their responses half of the supervisors interviewed pointed out that a distinction should be made between *short* and *long cycles*. The sequence of preparation, action and evaluation exists not only in long cycles as represented in Fig. 4.1.1, i.e. in the alternation of college-based and school-practice periods, but also *within* each type of period. Within a day or a number of days in the institute pedagogical issues may be treated and practical exercises such as socalled 'simulation lessons' (SWART 1981) may be done in a cyclical sequence of preparation, action and evaluation. In school periods it is the clinical supervision process that demonstrates such a cyclical character: student teachers successively prepare, teach and discuss their lessons with the other members of their triad and their cooperating teacher.

Eight out of the ten programmes studied in the interview sample showed a design in which long cycles had been deliberately and recognizably included. However, it appeared that in some programmes students began school practice sooner and spent more of their time in the insti-

US	*interview question(s)*	A.7.1 Do the cycles indicated in the standardized programme document accurately reflect how the programme actually took place?			
9					
10	*a posteriori response categories*	short cycles	long cycles	relationship between short and long cycles	transition from evaluation to preparation stages (a to c)
	number of responses per category out of a total of	5	9	4	4
	10				

Table 4.1.2 Short and long cycles in preservice programmes

US	*interview question(s)*	A.8.1 Did you ever consider designing your programme according to a different schedule, that is block programming or parallel programming?			
9					
10	*a posteriori response categories*	A.8.2 *If so,* which advantages would this other schedule have?			
		A.8.3 *If not,* which advantages has the present schedule?			
	number of responses per category out of a total of	type of schedule	organizational problems	(dis)continuity in student teaching	substantive coordination of college-based and school practice periods
	10	10	4	3	8

Table 4.1.3 Block programming and parallel programming

tute on evaluation of their own teaching, whereas in other programmes students began school practice later and spent more of their institute time on lesson preparation. Some cues for understanding this difference in programme design could be found in the responses of the four university supervisors who gave their views about the relationship between short and long cycles. Three supervisors conceived of the short cycles during college-based periods *as an indispensable preparation* for student teaching. The fourth supervisor, however, declared himself in favour of such an alternation between school-practice and college-based periods that students would enter the field as soon as possible and gather experiences there, which could then be used in the institute *as a basis for evaluating* classroom teaching.

This was not the only occasion in interviewing university supervisors where they seemed to favour different ways of implementing programme cycles. What should be done with student teachers' school experiences in the institute appears to be a question that university supervisors answer on the basis of different conceptions of how students learn. Some supervisors talked about student teaching activities as something for which they ought to be bolstered up in advance as thoroughly as possible, while others, who tended to favour a relatively fast entry into the field, were more easy-going about this point. Apparently, the transitions between preparation, action and evaluation within cycles constitute a focus of interest for university supervisors.

This finding was also evidenced in the importance that four supervisors attached to the transition from evaluation to preparation stages. They all sought in different ways to interconnect these stages as thoroughly as possible, as they considered the nature of this transition an important determinant of the extent to which students would be able to further develop educational insights and skills in *subsequent* cycles. Of course, as two university supervisors pointed out, for such learning to occur the *repetition of long cycles* is a necessary precondition.

Besides verifying the idea of cycles discussed above we used two types of programme schedules that emerged from our standardized programme descriptions as another avenue for exploring the PDI-RUU supervisors' ideas about programme design. Basically, two types of schedules

for the alternation of college-based and school-practice periods are in use. We have named these types 'block programming' and 'parallel programming'. In *block programming* students use each programme period to work exclusively in schools or in the institute. In this type of schedule the successive periods usually increase in duration. In *parallel programming* students work both in schools and in the institute during almost every week in the programme. Consequently, in parallel programming students shuttle back and forth between school and institute much faster and much more often than they do in block programming.

Table 4.1.3 summarizes the interview questions asked in order to probe for advantages and disadvantages that university supervisors saw in these different schedules. We will here report only those response categories which were filled by more than half of the interviewees. An inspection of the standardized programme documents showed that out of the ten programmes in the interview sample seven were scheduled according to block programming, one according to parallel programming and two programmes manifested schedules of a mixed type.

The eight university supervisors who made statements about the relative advantages and disadvantages of block programming versus parallel programming showed themselves careful in giving any final judgements about this issue, because most of them had practical experience with only one of either types of scheduling. Even so, they recounted a number of experiences made in their departments with various kinds of schedules. As a result, they could not attribute any superiority to either block programming or parallel programming, but at least one interesting comparison between both did emerge.

Two university supervisors pointed out as an advantage of parallel programming that the high frequency of students' transitions between school and institute offered a host of opportunities to try and infuse theoretical notions into their interpretations of teaching experiences. One supervisor, who uses parallel programming, emphasized that in this way students could be stimulated to gradually develop educational concepts fit for observing classroom processes. However, three other supervisors warned that parallel programming does not automatically produce such learning. Rather, they suggested that parallel programming requires a lot of know-how and ingenuity on the part of the supervisor in offering students theoretical notions and practical suggestions that are *immediately relevant* to their fresh school experiences and teaching

concerns. If one does not succeed in doing so, it was their experience that students are easily irritated by what they perceive as a lack of practical relevance in what the institute has to offer.

This problem of student irritation after returning from school was also mentioned by supervisors who used block programming, but it seems to be more critical in parallel programming, because this kind of irritation usually manifests itself most strongly immediately after the return from schools. As this return occurs far less often in block programming, two supervisors having ten years of experience with this type of schedule said, block programming may make it easier to counter the kind of unreflected pragmatism that school practice frequently induces in students.

In sum, one may say that *how students react after returning to the institute* from their practice schools signalizes the same problem, whether a programme schedule is of the parallel or of the block type. As one supervisor noted, school experiences tend to have a more immediate and/or intense impact on students than experiences in the institute and therefore the central task for any university supervisor remains to make the contents of college-based periods as directly relevant to student teaching tasks as possible. Insofar as one fails in this task, the notorious gap between theory and practice will in the eyes of students continue to correspond to the difference between university and school settings.

4.2 Implementation of integrative curriculum design

Now, what kind of teacher education process do PDI-RUU staff and cooperating teachers actually realize within the curricular conditions described in the previous section? To come to grips with this question we will report in this section how and why the institute's teacher educators implemented two important curriculum principles in the academic year 1982-1983. These principles were the gradual increase of complexity in student teaching tasks and the creation of opportunities for experimenting during student teaching. This section includes beginning teachers' retrospective opinions about these two principles.

In order to explore how teacher educators implemented the principle of making *student teaching activities increase in complexity* through successive programme cycles we asked all three groups of respondents

questions about the degree to which this principle was *realized* in actual practice. At the same time we wanted to find out how *useful* teacher educators and students found this principle.

Table 4.2.1 summarizes questions and responses concerning the realization of increasingly complex student teaching activities. To begin with, the university supervisors interviewed were quite outspoken in their positive views on this curriculum principle. Five of them gave as their explicit opinion that it enables students to develop competence towards the point where they can begin to work as an autonomous teacher. Also five university supervisors pointed out that this increase in complexity should be carefully implemented, particularly during the first two schoolpractice periods. In their experience much attention should

US 10	*interview question(s)*	A.4.1 In how far, do you think, is the *increase in complexity of student teaching tasks* (in the sequence OB-PL-WL-SLS-US) practically realizable and useful?						
	a posteriori response categories	arguments favouring usefulness	descriptions of separate stages	statements about realizability	additional remarks			
	number of responses per category out of a total of 10	5	5	6	3			
CT 6	*relevant variable*	SPDIOPK In most PDI programmes student teaching activities are characterized by the following sequence: OB observation PL teaching partial lessons WL teaching whole lessons SLS teaching a short series of lessons (about one theme) LLS teaching a long series of lessons (about one theme) To what degree did the students whom you supervised in the last programme carry out their teaching activities in the above sequence? (7) to a considerable degree —— to a slight degree (0)						
	a priori response categories							
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	116	37.1	7	5.63	1.64	.15	p = .5485
	IS	17	58.8	7	6.29	1.26	.31	
ST 5	*relevant variable*	STOPKLI In most PDI programmes student teaching activities are characterized by the following sequence: OB observation PL teaching partial lessons WL teaching whole lessons SLS teaching a short series of lessons (about one theme) LLS teaching a long series of lessons (about one theme) To what degree did you carry out your teaching activities in the above sequence? (7) to a considerable degree —— to a slight degree (0)						
	a priori response categories							
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	312	26	5	4.52	2.08	.12	p = .6952
	IS	11	45.5	6	5.46	1.44	.43	

Table 4.2.1 Realization of increasing complexity in student teaching

be paid to choosing and sequencing the contents of the stages of observation and partial lessons, because this is when students should and do begin to get used to the teacher role and to what this role means for their interaction with pupils. What this counsel seems to imply is that student teachers are confronted with the problem of *role acceptance* from the very moment when they enter the school.

In their interviews six university supervisors elaborated on the need to allow students to increase the complexity in their teaching activities *at different rates*. Some students, they said, tend to proceed too fast, while others go too slow to be able to get the most out of their teaching experiences. These supervisors see it as a matter of negotiation between students, cooperating teachers and themselves to decide if a student should be 'held back' or rather be 'pushed forward'. To have the opportunity for such differentiation between students is in their opinion an important advantage of the principle of increasing complexity.

Now, in how far did such opportunities for differentiated learning rates really exist in the programmes under study? We have asked cooperating teachers as well as students in the questionnaire sample to what degree they followed the principle of increasing complexity in their actions. As can be seen from the quantitative data in the lower part of Table 4.2.1, this was true to a reasonable extent. We may conclude that *in the academic year 1982-1983 more often than not student teaching activities in PDI-RUU programmes gradually increased in complexity*. However, cooperating teachers were a little too optimistic in their estimation of this state of affairs, for students scored on average about one point lower on this question. In fact, 83.7% of cooperating teachers and 65.4% of students scored in categories 5, 6 or 7.

A similar picture emerges from the responses about the *usefulness* of the principle of increasing complexity. As the quantitative data in Table 4.2.2 show, cooperating teachers overestimated how useful this principle was for students. In fact, 85% of cooperating teachers and 69.9% of students scored in categories 5, 6 or 7. Still, both groups clearly agree in giving a positive judgement about the practical usefulness of sequencing student teaching activities in the order of observation, teaching partial lessons, whole lessons and complete series of lessons.

CT 6	*relevant variable*	SPDOPKL How useful was it in your opinion for the students in the last programme to carry out their teaching activities in the above sequence?						
	a priori response categories	(7) very useful ——————— hardly useful (0)						
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	114	36.8	7	5.7	1.58	.15	p = .9027
	IS	16	50	7	6.25	.93	.23	
ST 5	*relevant variable*	STOPKLIM How useful was it in your opinion to carry out your teaching activities in the above sequence?						
	a priori response categories	(7) very useful ——————— hardly useful (0)						
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	309	27.5	6	4.97	1.8	.1	p = .4654
	IS	11	45.5	6	5.18	2.04	.62	
BT 14	*interview question(s)*	D.2.2 You questionnaire responser show that in carrying out your student teaching activities you followed the *sequence OB-PL-WL-SLS-LLS* to a ..... degree and you found this ..... useful. a. Are you still of the same opinion? b. Why (not)?						
	a posteriori response categories	judgement about gradual increase in complexity	observation (OB)	partial lessons (PL)	whole lessons (WL) and series of lessons (SLS, LLS)			
	number of responses per category out of a total of 11	11	4	8	4			

Table 4.2.2 Usefulness of increasing complexity in student teaching

All except one of the beginning teachers whom we interviewed had positive recollections about proceeding through student teaching in this order. As a matter of fact, the interview sample of beginning teachers would make a good chance of justifying the cooperating teachers' optimism about the principle of increasing complexity. Two practical advantages stand out among the interview responses. Three beginning teachers explained the virtues of having the opportunity before they started teaching themselves to observe what pupils in the practice school are used to in the way of teacher behaviour and learning activities. 'Suppose you start right away with a series of lessons', one of them said, 'you would run the great risk of failure and of seeing something collapse that you would nevertheless like to realize'. And another: 'The advantage of this build-up is that you can watch what the pupils are used to, so that when you are going to teach yourself, you won't start doing too many completely unfamiliar things. It would be a pity if through that mistake you would land face down'.

Seven of the beginning teachers interviewed stressed how pleasant to them was the experience of being able to 'get used to it', 'get into it', 'build up your teaching' *gradually*. As one of the interviewees said:

> Teaching was being expanded all the time, so you weren't overwhelmed by too many things at the same time. You could consider everything really well and have a look at each different element such as interaction with pupils, what material one should include and how to present it. You gradually develop an overview of teaching, so there is a short of shift taking place.

The importance of gradualness can best be illustrated by the responses about *partial lessons*. Two out of the seven interviewees who made statements about partial lessons had skipped this stage of student teaching, one went through it, but gave no judgement and the one interviewee who was negative about the whole principle of increasing complexity felt that 'you put pupils in a strange position when you split the group in half to make it easier. I don't care whether I stand before a group of twelve or of 24 pupils. Such a partial lesson biases your image of teaching, I think.' This response illustrates by the way that partial lessons in the PDI-RUU's practice schools are defined and practised in two possible ways: either the number of pupils or the duration of the lesson is reduced. Moreover, it highlights again the importance of 'what pupils are used to', in other words of classroom ecology (cf. Doyle 1977).

ST 5	*relevant variable* / *a priori response categories*	NIKLA1	You have now taught a series of lessons yourself. Would you please indicate how many oportunities the practice school and the cooperating teacher offered you to organize activities outside the classroom, if you wanted to (0) very few opportunities ——— a lot of opportunities (7)					
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	288	17.4	7	4.02	2.29	.14	p = .8561
	IS	11	18.2	3	4.09	2.26	.68	

ST 5	*relevant variable* / *a priori response categories*	STLIN1	While you taught a series of lessons, how many opportunities did the practice school and the cooperating teacher offer you to determine the contents of those lessons by yourself? (0) very few opportunities ——— a lot of opportunities (7)					
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	312	30.8	7	5.04	2.09	.12	p = .8569
	IS	11	36.4	7	5	2.45	.74	

ST 5	*relevant variable* / *a priori response categories*	STFAS1	While you taught a series of lessons, how many opportunities did the practice school and the cooperating teacher offer you to carry out classroom activities in a sequence of your own choice? (0) very few opportunities ——— a lot of opportunities (7)					
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	311	35.7	7	5.39	1.86	.11	p = .3990
	IS	11	54.5	7	5.72	2.1	.63	

ST 5	*relevant variable* / *a priori response categories*	STMAT1	While you taught a series of lessons, how many opportunities did the practice school and the cooperating teacher offer you to make and use learning material by yourself, if you wanted to? (0) very few opportunities ——— a lot of opportunities (7)					
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	314	49.7	7	5.86	1.67	.094	p = .9886
	IS	11	45.5	7	5.73	1.85	.56	

ST 5	*relevant variable* / *a priori response categories*	STDWN1	While you taught a series of lessons, how many opportunities did the practice school and the cooperating teacher offer you to use work forms of your own choice? (0) very few opportunities ——— a lot of opportunities (7)					
	statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
	QS	314	45.5	7	5.78	1.64	.092	p = .7594
	IS	11	45.5	7	6.18	.87	.26	

Table 4.2.3 Opportunities for five kinds of student-teacher decisions

Three interviewees, on the other hand, were quite positive about teaching partial lessons. One of them appreciated that she need not bother right away about managing the beginning and the end of the lesson, so that she could concentrate solely on instruction. Another enjoyed the opportunity 'to spend two days in preparation. It is nice to experience that more and more organization is required of you and that you must step up the pace, once you have to teach a whole day.' From these responses it appears to us as though especially students who dislike being 'pushed forward', could benefit from teaching partial lessons following the observation stage of student teaching.

So far, our findings indicate that student-teacher activities in the programmes under study have indeed increased in complexity over time and that most individual students were rather content about the gradualness of this experience. We will now adress the second curriculum principle PDI-RUU teacher educators like to adhere to, namely the *creation of opportunities for experimenting during student teaching*.

Increased complexity in student teacher activities presupposes on the part of the cooperating teacher a willingness to offer students opportunities to take their own decisions about what and how to teach. In other words, cooperating teachers should allow students more and more liberties in and responsibility for the ways in which they try to stimulate pupils' learning. To get some view of what such freedom might amount to in actual practice we asked our questionnaire sample of students the five questions shown in Table 4.2.3. In content these questions correspond to the first five criterion variables in Table 2.1, but their context is different in that they specifically address the cooperating teacher's influence on student teaching.

A first inspection of the means and p values in Table 4.2.3 shows that on these questions the interview and questionnaire samples IS and QS do not greatly differ. It becomes also clear that while teaching a series of lessons most students enjoyed quite a few liberties in taking and carrying out various teaching decisions. They apparently did not feel very much confined by their cooperating teachers. Some discrepancies did occur, however, between the *kinds* of liberties allowed to students.

If we compare the means for the five variables in Table 4.2.3, student teachers appear to have enjoyed the fewest liberties in organizing activities outside the classroom (see variable NIKLA1). We should rea-

CT 6	*relevant variable* *a priori response categories*	STVRIJH As a cooperating teacher you can allow students more or fewer liberties in taking and carrying out the abovementioned decisions (see NIKLA! to STDWN!). Would you please encircle the number for the answer that best characterizes your approach during the student teaching periods in the last programme? (2) In the course of school-practice periods I allowed the students *more and more* liberties (1) In the course of school-practice periods I allowed the students *fewer and fewer* liberties (0) In the course of school-practice periods I allowed the students *about equally many* liberties

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	117	58.1	2	1.18	.98	.09	p = .4855
IS	17	70.6	2	1.41	.94	.23	

CT 8	*interview question(s)* *a posteriori response categories* *number of responses per category out of a total of* 17	B.2.3 In the course of school-practice periods you allowed the students ..... liberties. Why did you take this approach?				
		arguments for/intentions behind/effects of *more* liberties	*equally many* liberties	responses relating to criterion variables	relationship with increasing complexity of student teaching activities	additional remarks
		12	7	11	8	9

ST 5	*relevant variable* *a priori response categories*	STVRIJ In looking back upon how all school-practice periods proceeded, what is your opinion about the *liberties* that the cooperating teacher allowed you in taking and carrying out the abovementioned decisions (see NIKA! to STDWN!). Would you please encircle the number for the answer that best characterizes the approach taken by your cooperating teacher? (2) In the course of school-practice periods the cooperating teacher allowed me *more and more* liberties (1) In the course of school-practice periods the cooperating teacher allowed me *fewer and fewer* liberties (0) In the course of school-practice periods the cooperating teacher allowed me *about equally many* liberties

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	311	64.3	0	.71	.99	.06	p = .9625
IS	11	63.6	0	.73	1.01	.30	

Table 4.2.4 Liberties allowed by cooperating teachers in the course of student teaching

lize, however, that being allowed liberties is not the same as *taking* them. Considering the results presented earlier in this section it may very well be that a number of students did not want to organize activities outside the classroom or did not even know how their cooperating teacher felt about this (cf. the slightly reduced number of valid cases in NIKLA1). Anyhow, exactly half of the students in the questionnaire sample scored at the upper end of the scale (categories 5, 6 or 7). We conclude that in teaching a series of lessons at least half of the student teachers could have organized activities outside the classroom if they wished to.

In the other teaching decisions involved students experienced notably more freedom. Determining lesson content by themselves (variable STLIN1) was allowed to 71.5% and making and using learning materials according to their own preferences (variable STMAT1) to 83.8% of students (percentages are adjusted frequencies summed over categories 5, 6 and 7). Students were also quite free to decide in which order they would instruct pupils to carry out learning activities, for 79.1% scored at the upper end of the scale for variable STFAS1. Students felt about equally free in structuring learning activities within instructional settings of their own choice, for 83.7% scored at the upper end of the scale for variable STDWN1. The term 'work form' in variable STDWN1 is the literal translation of a 'container concept' (Peters 1984) current among Dutch teachers, for which to our knowledge no direct counterpart exists in English. This concept usually comprises both a particular learning activity and the groupings within which pupils carry it out, but it excludes subject content. In sum, once student teachers got to the stage of planning and teaching a series of lessons from beginning to end, they felt they could decide about their own teaching behaviour to a reasonable extent.

To find out how cooperating teachers behaved in granting these liberties in decision-making we asked cooperating teachers which approach they took in realizing the principle of increasing complexity. The data for variable STVRIJH in the upper part of Table 4.2.4 show that a majority of cooperating teachers sought to enlarge students' responsibilities in the course of their teaching. 40.2% on the other hand did not deliberately vary degrees of freedom for students (scores in category 0).

To explore the reasons why cooperating teachers took these divergent

approaches we asked those in the interview sample why they had scored the relevant item in their questionnaires in the way they did. The response categories that emerged from their answers are shown in the middle of Table 4.2.4. Those cooperating teachers who allowed their students more and more liberties during successive school-practice periods motivated their approach as follows.

Students, they said, should get the opportunity to bear responsibility themselves, to take decisions by themselves and to experiment with teaching on the basis of explicit arguments. In this way they can gather experiences and acquire some confidence in their own teaching capacities. Allowing students to experiment enhances progression in their learning and at the same time it enables the cooperating teacher to observe students' personal development as a teacher and, as one respondent noted, even to make a prognosis about their future functioning as a teacher.

Those cooperating teachers who made statements about this aspect of students' acquisition of teaching competence again discussed the issue of different learning rates among students. Some students, they said, could tolerate more freedom and succeeded faster in using it than others. As our quantitative data already suggested, cooperating teachers tried to take these differences into account in their supervision either by expanding student teachers' freedom quite gradually in small steps or by giving students maximum freedom right from their first day in school. In the latter case students would at times run into difficulties and feel at a loss how to use all this freedom that was granted to them. In such cases students would seek their cooperating teacher's support.

From the cooperating teachers' additional remarks a cue may be found to what lies behind these different approaches. It appears that some cooperating teachers were less concerned than others that student lessons in certain classes would 'end up in a mess'. Some cooperating teachers did not seem to worry much about having to make up for arrears incurred in covering a certain amount of subject matter or, as some of them termed it, 'clear the debris' after a student had been teaching their pupils. Even so, most cooperating teachers did oblige their students to show their lesson plan before actually carrying it out, so that the worst blunders could be warned against. Within these constraints most cooperating seemed confident to stick to a golden rule:

'never interfere in student teaching while it is taking place'. Actually, the main aspect of student teachers' classroom work that cooperating teachers seemed to be on guard about is whether the subject matter treated by students fitted reasonably in their own semester or year planning. At least this is the only point in terms of our criterion variables that was explicitly and voluntarily commented upon by more than half the interviewees.

Finally, eight of the cooperating teachers interviewed gave their views on how the expansion of student teacher responsibilities fits in with increasing the complexity of their classroom activities. The sequence OB-PL-WL-SLS-LLS (cf. Table 4.2.1), they said, is *practically congruent* with students' growing need for more complicated situations in the course of school practice and as such it justifies the principle of increasing complexity. In fortifying this argument interviewees would often in their own words describe what happened during each step in the sequence. In some cases, they added, they would also towards the end of the programme leave the student teacher's classroom to confront him or her with what it is like to handle a group of pupils all by yourself.

Now that we have heard the cooperating teachers' story, it is interesting to see *what impact their behaviour in constraining or expanding student teacher responsibilities made* on the students themselves. To get an idea of this impact we asked the students in the questionnaire sample an analogous question to the one answered by cooperating teachers (see the bottom of Table 4.2.4). Here, an interesting reversal of perceptions was found. Whereas 40.2% of cooperating teachers felt they had allowed students about equally many liberties in the course of school practice, as much as 64.3% of students have experienced their cooperating teacher's behaviour in this way. In reverse, whereas 58.1% of cooperating teachers thought they had allowed students more and more liberties in the course of school practice, only 33.4% of students reported having experienced this.

We interpret this finding to mean that again cooperating teachers were a little too optimistic about the degree to which they actually implemented a curriculum principle which in the PDI-RUU is held in high regard. Nonetheless, the overall picture is that student teachers were given a reasonable amount of liberties.

BT 14	*interview question(s)*	D.2.3. I got the impression that in your student teaching you had .... *opportunities for experimenting* (cf. Table 4.2.3). a. Is that correct? b. What influence has this had, do you think, on your development as a teacher?		
	a posteriori response categories	(reasons for) amount of opportunitys for experimenting during student teaching	content of experiments during student teaching	influence of experimenting during student teaching on ways of inservice teaching (D.2.3b)
	number of responses per category out of a total of	11	6	11

Table 4.2.5 Influence of student-teacher experimenting on inservice teaching

These discrepant figures do suggest, though, that more students in the PDI-RUU's 1982-1983 programmes were left to their own devices while practising teaching than they desired. How often did it go unnoticed that a student felt at a loss about what and how to teach? To answer such a question is by definition a tricky matter, but the fact that it arises from the research material suggests that the capacities of cooperating teachers for observing the evolution of teaching competence in individual student teachers and for intervening in this process when necessary, constitute a vital factor in the implementation of teacher education programmes.

Now that the reader has some idea of how PDI-RUU staff implemented the two curriculum principles of increasing complexity and providing opportunities for experimenting in their 1982/1983 preservice programmes, we would like to take a look at how this piece of teacher education practice *has worked out roughly two and a half years later* in inservice teaching by the institute's graduates. The observations of and interviews with these beginning teachers took place between October 1985 and January 1986. All eleven interviewees answered questions about the amount and the nature of the opportunities for experimenting they had experienced during school practice. The whole interview sample also recounted what kind of influence their preservice teaching experiments had exerted on their present inservice work.

Table 4.2.5 lists the interview questions that were asked and the response categories that emerged. We could ascertain that three beginning teachers had experienced a moderate amount of opportunities for preservice experimenting. One of these respondents had only been constrained in selecting subject matter. Only one other case was found where really few opportunities had existed for experiments. The graduate concerned felt that school practice as a whole had lasted too short for her. Moreover, her cooperating teacher had allowed her no more than filling in lessons that fitted into his own teaching programme.

The remaining seven beginning teachers reported having received a lot of opportunities for experimenting from their cooperating teachers. Six of them described what they had actually done with these opportunities. One of the graduates who had experienced a moderate amount of opportunities said he had actually done little with them, because at bottom he had been a little apprehensive of doing so. All of the others had experimented with unconventional 'work forms' such as open discus-

sions between pupils and drama; role play about the issue of abortion; a cycling trip to study spatial planning; a project 'which did not deal with the (prescribed) curriculum' and making collages.

In the interview sample the amount of influence exerted by these preservice teaching activities on inservice teaching turned out to correspond pretty well to the amount of liberties experienced during student teaching. The three graduates who reported no influence had experienced either moderate opportunities for preservice experimenting or none at all. Only one of them had experimented a little, but 'this amounted to no more than fooling around in the margin. At the time you couldn't really see what teaching is all about'. The respondent who had been a little apprehensive of experiments now hoped that in the near future he would get into doing them. The graduate who had had to fit into her cooperating teacher's programme reported that during her first year of service she had just been preoccupied with being able to teach at all'.

The remaining interviewees all reported that their present inservice teaching had been influenced by their preservice experiments in recognizable ways. Four beginning teachers told us how this influence had worked. Two of them said that during preservice practice they had come to draw conclusions about and find confidence in what they could or could not do in certain classes. Two others had discovered that unconventional work forms such as a bicycle trip or making collages need not automatically end up in a mess, as they had initially expected. These experiences had changed their views on teaching, three of these four interviewees said, and this was why they now were more inclined to include the same kinds of activities in their inservice teaching.

Three other beginning teachers reported similar learning effects: by gathering experiences during student teaching with specific, usually unconventional teaching activities they were encouraged to do the same things as part of their inservice practice. One of them was quite outspoken about the transfer that this kind of preservice experience could generate:

> This freedom to experiment is rather essential, for if you aren't allowed or don't dare to engage in such experimenting, then later, during inservice teaching, nothing much is going to come of it. So, if you didn't pick up from preservice training any idea of the need to change something in education every once in a while, you will become the type of person who is off homeward-bound directly after class, you know, like saying "Well folks, that was all for today".

Another beginning teacher said he now profited from the experience that preservice experimenting had lowered thresholds for taking certain actions.

Before rejoicing too loudly in these encouraging findings we would like to report some more comments by the interviewees, which indicate that these learning effects are confined by influences from the beginning teachers' *work context*. Three beginning teachers told us that in their present school they hardly applied the unconventional work forms which they had come to know during preservice teacher education. One other even said that this never occurred and another that he was disappointed by the lack of a free climate in a school where he had worked previously.

The above interview responses indicate that two factors may discourage the use of unconventional teaching approaches by beginning teachers, to wit a lack of opportunities for experimenting during preservice school practice and a less than tolerant school climate during inservice teaching. On the other hand, when student teachers are enabled and supported to try out new ways of teaching (including unconventional ones), chances seem to be improved for developing a diverse repertoire of inservice teaching behaviours.

We would like to qualify this hypothesis by noting that the above findings do not make clear if or in how far the learning effects found may *transfer* to teaching activities with which graduates have not made any experiences during preservice school practice. Evidence of such transfer was found only in the last two cases described here.

How to induce *transfer from college-based learning to preservice and inservice teaching practice* appears to be a problem foremost in the minds of the PDI-RUU supervisors whom we interviewed. Although our analysis of their statements on this matter is still in progress, we would like to conclude this section by sketching some of the more conspicuous points made in the interviews.

As we noted earlier, the moments when students come back from their practice schools to the institute appear to be critical in terms of motivation. After the return from school time is devoted in most PDI-RUU programmes to exchanging student-teaching experiences, but the *amount* of time spent on this activity varied considerably among programmes. Most university supervisors do try to pick up specific questions, concerns and wishes for further learning expressed by students, for they

attach great importance to tailoring their supply of theoretical information and practical exercises to students' individual needs. However, 'to do the right thing at the right time' in the sense of matching college-based activities to students' momentary concerns about teaching appears to pose a continual challenge to university supervisors.

The events taking place during school practice seem to be characterized by a strong inner dynamic, which university supervisors can only influence from a distance. For example, university supervisors would like to counter the pressure that schools exert on students to follow prescribed textbooks strictly in their teaching, but they were skeptical about their success at this point. On the other hand, they felt that 'doing the right thing at the right time' is surely not impossible. University supervisors did feel they succeeded to some extent in stimulating in students the growth of educational notions and concepts which influenced their practical actions.

The interview responses from university supervisors as well as discussions at PDI-RUU staff conferences[14] have given us the distinct impression that two contrary conceptions of integration exist within the institute and that these conceptions revolve around the question which contents should be treated in which sequence during college-based preservice seminars. As noted before, some teacher educators favour an approach to seminars emphasizing their *preparatory* function for student teaching, while others favour an emphasis on seminars' *evaluative* function. Proponents of the latter function tended to programme students' school experiences (particularly those during the observation stage of school practice) as early as possible in the programme, so that more time would be available to be spent after students' return from school on interpreting and evaluating their experiences.

For the time being, we have termed these different conceptions about the function and sequence of seminar contents *deductive* and *inductive* respectively. We would like to find out what these different conceptions about the alternation of school-practice and college-based periods in preservice teacher education basically have to do with how university supervisors try to foster a theoretical understanding of teaching and pedagogy in their students. So far, we hypothesize that supervisors favouring a deductive approach tend to view and present theory as a static body of knowledge, while those favouring an inductive approach tend to view and present theory as a dynamic conceptual

tool for understanding the processes of teaching and learning (cf. De Baat & Brouwer 1987).

4.3 'Transition shock' and beginning teachers' classroom performance

This section will be devoted to the experiences of PDI-RUU graduates after they found employment as beginning teachers. We will explore what 'transition shock' has meant to them and have a look at the criterion variables of this study as measured during entry into the teaching profession.

In the days when university teacher education in the Netherlands amounted to little more than a few loosely coordinated theoretical lectures and 40 hours of classroom observation, it was a widespread feeling among graduates that once you worked in a school, you had better forget about many a theoretical nicety that you had been made to consume in preservice seminars. To see if such retrospective judgment also prevailed among PDI-RUU graduates trained in 1982/1983 we phrased the attitude item in Table 4.3.1.

Administering this item produced a rather flat distribution with the mean neatly in the middle. Has teacher education in Utrecht improved over the last fifteen to twenty years? Our design fails in answering this question, but the fact remains that the PDI-RUU graduates in our questionnaire sample appear to be neither forgetful nor hyperenthusiastic about the ideals of 'good teaching' with which the institute has acquainted them. We will have to delve further into their experiences as beginning teachers.

In their study of 'transition shock' in graduates from several West-German preservice teacher education programmes Dann et al. (1978) found attitude changes in beginning teachers which they interpreted as a result of *counterattitudinal action* as conceptualized by Kelman (1974). Kelman argues with some plausibility that when people feel urged by their social environment to act in discrepancy with their personal attitudes, beliefs or norms, they will after a while reduce this discrepancy by chaning their attitudes in the direction of the counterattitudinal actions performed. A path analysis by Dann et al. (1978, p. 321) clearly demonstrated that this kind of 'discrepancy experiences' plays a central part in the socialization of beginning teachers.

BT 12	*relevant variable*	LOPRAREL	Some people say about teacher education that it propagates all sorts of idealistic theories that inservice teachers had better forget in everyday school life. What is your opinion in this matter, considering the daily goings-on in your school?
	a priori response categories		(7) I strongly agree ——— I strongly disagree (0)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	136	21.3	5	3.65	1.99	.17	p= .8413
IS	11	27.3	2	3.46	2.12	.64	

Table 4.3.1 Practical relevance of preservice programmes according to beginning teachers

We therefore decided to explore such experiences in our samples by means of questions aiming at teacher reactions to disappointing classroom situations arising from prevalent classroom ecology. After all, we reasoned from personal experience, in these situations the kind of diffuse but powerful influences operate that may drain educational ideals in a beginning teacher. Variable LLNLAUW in the upper half of Table 4.3.2 was meant to describe disappointment after enthusiastic attempts at activating pupils. Variable LLNBRAFS sought to measure to what degree norms conducive to an orderly work climate prevailed in beginning teachers' interactions with pupils. As the risk of response tendencies in socially desirable directions should not be underestimated here, we think the means found for both of these variables indicate that PDI-RUU graduates felt moderately disappointed in trying to activate pupils and in upholding constructive work norms.

The above questions did not really aim, though, at what the public knows is the hard core of 'transition shock', namely *discipline problems*. The lower half of Table 4.3.2 contains an interview question and a questionnaire item aiming direct at discrepancy experiences in teachers' disciplining behaviour towards pupils. In illustrating our reporting format at the end of section 3 we have already given the reader a glimpse of the responses to these questions (cf. Table 3.4).

As noted there, our analysis of the interview questions probing for teacher behaviours more or less discrepant with personal preferences showed that five out of the eleven beginning teachers interviewed have taken certain discipline measures against their will. In all these five cases the beginning teacher had been obliged to shape pupil behaviour according to norms set by school management.

One beginning teacher described the strictness of the school regime under which she worked:

> Every afternoon lunch break is preceded by prayer, but I don't see the need for this personally. The rules about eating candies are also something that I would like to enforce more flexibly, unless pupils eat them in outright indecent ways of course. In this school you also have to do a lot of 'shift work' and all that time is taken away from your own free hours. For everything there is a guard: near the school entrance, near the wardrobes, during meals and at the exit. Pupils are being controlled and checked upon everywhere, whereas I feel one could quite as well give them responsibilities for themselves. After all, they also have a pupils' council. I do participate in keeping up all these house rules, though, for after all they are in the contract that I signed when I came here.

BT 12	*relevant variable*	In a new job some things may turn out differently from what you had expected. Would you please indicate to which degree you have made this experience since your employment as a teacher?
	a priori response categories	LLNLAUW To which degree has it occured in your classroom that pupils reacted in a lukewarm fashion to lessons which you had prepared with special thoroughness or which you had planned so that pupils might particularly enjoy them? (0) slightly ——— considerably (7)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	134	20.9	2	2.99	1.71	.15	p= .5061
IS	11	36.4	2	3.18	1.47	.44	

BT 12	*relevant variable*	LLNBRAFS To which degree has it occured in your classes that pupils did not keep appointments which you had made with them?
	a priori response categories	(0) slighty———considerably (7)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	136	18.4	2	3.09	1.92	.17	p= .2085
IS	11	36.4	5	4.09	1.58	.48	

BT 14	*interview question(s)*	C.2.3 b Does it occur in this school that you have to *do things which you cannot really endorse yourself*? c (if so, probe) What kinds of things and how do you resolve them?
	a posteriori response categories	
	number of responses per category out of a total of 11	discipline measures taken in excess of personal preference: 5 (degree of) adjustment and critique: 10 wishes for change: 5

BT 12	*relevant variable*	HARDOPTR To what degree do you find yourself forced by pupil reactions to take harsher discipline measures than you would personally prefer (e.g. removing someone from the classroom, using imposition on pupils and the like)?
	a priori response categories	(0) slightly———considerably (7)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	135	17.8	5	3.47	2.25	.19	p= .0104
IS	11	54.5	5	5.18	1.47	.44	

Table 4.3.2 Discrepancy experiences relevant to 'transition shock'
(expanded version of Table 3.4)

A similar story came from another beginning teacher:

> I don't like very much playing the cop, particularly during excursions, but on the other hand I am the one who is responsible, so I have to control pupils. No matter how stupidly they act, I remain responsible. In daily classroom work this kind of controlling is a little less, but still you have to keep thirty pupils occupied in a sensible way.

And of course the classical predicament of the sexually enlightened teacher manifested itself:

> During a school camp the teachers leading it had to take care that boys and girls remained separate. Both my colleague and I thought this was nonsense, because you don't expect pupils to mount one another in the middle of a group of twenty, or do you? All the same, we had to separate them, even though in our eyes it was nonsensical. Eventually we found a compromise, so that pupils were allowed to be in each other's dormitories for an hour and after that the to-and-fro in the corridors had to end.

How dangerous is walking through corridors, one would wonder, considering another response about this kind of pupil behaviour:

> Pupils are not allowed to walk through the corridors during breaks. Prohibiting this during lessons is understandable to me, because the building is made of wood, but I find it nonsense that it should not be allowed during breaks. Then, something else I participate in while shrugging my shoulders is reporting marks to one digit after the decimal point.

The last example of counterattitudinal action found in our interview sample of beginning teachers was the following:

> I think it's nonsense that pupils are not allowed to bring their coats into the classroom, but officially it is not allowed, so I forbid it. However, when pupils ask me about the reasons for this prohibition, I know nothing sensible to say. I usually reply that it's just a rule, although I find this one of the worst things to have to say.

In sum, the verdict 'nonsense' was pronounced three times on norms of discipline set by school management.

In all cases mentioned so far beginning teachers had to carry out tasks following instructions that would give them some leeway. However, the first of the teachers just quoted told us that she also had to comply with *imperative* actions such as participating in formal checks on her presence:

> Before I came to this school, a time clock was introduced here, so that teachers and pupils may see when a teacher is absent. By using this clock they can also check who left the building last and should therefore have locked everything. ... This school is governed by a foundation, representatives of which come to visit the school on inspection days. These occasions are generally announced one day in advance, but one time a colleague of mine happened to hear that a representative would visit his classes

> five minutes before it started. They didn't consult him about a thing like that, it was just being announced, so they wouldn't ask if it suited you or not.

Kelman (1974) theorizes that counterattitudinal action is most forceful in bringing about attitude change, when the action performed exceeds limits of acceptance set by a person's initial attitudes. Translated within the context of our research this means that attitude change should ensue, when the tension between educational ideals and concrete actions becomes too great to bear mentally. Consequently, social pressure for these actions remaining equal, beginning teachers should give up something of their ideals. The *amount* of discrepancy experienced, then, should be a crucial factor in beginning teachers' reactions to pressures from their school context. Keeping this idea in mind, we tried to categorize the ten beginning teachers who reported about their disciplining behaviour in three different groups.

Excepting one interviewee who said he preferred to punish pupils more severely than the assistant school director would allow him (!) we found that three interviewees had experienced pressure for counterattitudinal action exceeding their range of acceptance and three interviewees had experienced similar pressure, but within tolerable limits. Finally, two interviewees had experienced hardly any discrepancy between actions expected of them and actions performed or no such discrepancy at all.

Our next step in the analysis was to take into account how the interviewees had *resolved* their practical dilemmas. We tried out what categorization would result from using Lacey's distinctions between 'internalized adjustment', 'strategic compliance' and 'strategic redefinition' (Lacey 1977, p. 100). By this approach we found that at least one beginning teacher showed internalized adjustment, six teachers used 'strategic compliance' and two teachers managed to strategically redefine their work situations. One of the latter interviewees told us:

> It is the great freedom you have as a teacher which makes it possible to let your inventiveness work. Now, take this rule that pupils must not leave the classroom, before the lesson is finished at the scheduled time. If it suits me, I will handle this rule flexibly. Or when I sometimes see what kind of homework pupils have to do for tests by colleagues of mine, I think for myself I would have taken a quite different approach.

The categorizations reported above should be regarded as tentative, for no reliability checks have as yet been made, but having compared the results of both trials we were struck by the fact that apparently

the greatest pressure in the direction of counterattitudinal action had been experienced by teachers in the natural sciences and the fewest by teachers of Dutch, history and social studies. Is it perhaps the case that more professional liberties accrue to teachers on whose subjects fewer societal pressure for (cognitive) pupil achievement are exerted? This is clearly a question for further quantitative analysis of responses in our questionnaire sample.

Finding such diversity among PDI-RUU graduates as we did on the one dimension of discrepancies between words and deeds led us to conclude that the degree to which beginning teachers feel forced by pressure from the school context to shape and discipline pupil behaviour is a variable quite relevant to our research questions. This is why we included the results found for the variable HARDOPTR in Table 4.3.2. As we noted before, the significant deviation found in this case between the interview and questionnaire samples indicate that the interview quotations in this section represent a kind of photographic enlargement of the situation in which the whole questionnaire sample finds itself.

Even so, the mean of 3.47 and the mode of 5 found for discipline measures taken in excess of personal preferences lead us to conclude that considerable social pressure must have been exerted on PDI-RUU graduates to shape and control pupils in ways they disagreed with. At the same time a relatively large variance exists among respondents in this respect. We feel that these findings justify the assumption in our research model that school context variables can hardly be underestimated as determinants of the socialization of beginning teachers.

Now, what do the above findings imply for the *professional well-being* of beginning teachers? After all, working in a profession that structurally puts you under mental strain should sooner or later leave its traces behind. To get an idea of the emotional impact of beginning teachers' work experiences we asked the questions listed in Table 4.3.3. To begin with, the respondents in the questionnaire sample apparently felt reasonably certain in their roles as teachers (see variable LKZEKERH). On the other hand, this degree of confidence at work does not mean that PDI-RUU graduates hold easy or relaxing jobs, for more than half of the beginning teachers surveyed felt that their work had a negative impact on their private lives (see variable SPANEG). The *amount* of stress that these respondents brought home from work appears to vary strongly (see the standard deviation for variable SPANEGA).

BT 12	*relevant variable*	LKZEKERH	With what kind of feeling do you usually carry out your classroom work?
	a priori response categories		During classroom work I usually feel (7) very certain ——————— very uncertain (0)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	135	36.3	5	4.86	1.34	.12	p= .3769
IS	11	45.5	4	4.73	.79	.24	

BT 12	*relevant variable*	SPANEG	Does it occur that stress at school has a negative impact on your private life?
	a priori response categories		(1) yes/no (0) If not, please go to the next page.

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	138	55.1	1	.55	.5	.04	p= .78
IS	11	63.6	1	.64	.51	.15	

BT 12	*relevant variable*	SPANEGA	If so, to which degree does such stress have a negative impact on your private life?
	a priori response categories		(7) considerably ——————— slightly (0)

statistics	*number of valid cases*	*percentage of modal scores*	*mode*	*mean*	*SD*	*SE*	*comparison of IS with non-IS*
QS	77	24.7	5	3.7	2.02	.23	p= .8517
IS	7	28.6	3	4	1.41	.54	

Table 4.3.3 Emotional impact of beginning teachers' work experiences

Still, the percentage of scores at the upper end of the scale (categories 5, 6 and 7) is 44.2%. Taken together the statistics for these two variables show that roughly a quarter of PDI-RUU graduates experienced a considerable negative impact on their personal lives due to stress at school.

Under these consitions, what kinds of moderately *innovative teaching behaviours* did the beginning teachers in this study realize? The observation and interview data which we collected should enable us to formulate detailed answers to this central question, but within the limits of this paper we can only cast a glance on the distributions found for the *criterion variables* as measured during the first inservice years. The literal wording of these variables can be found in Table 2.2. The descriptive statistics computed for these variables can be found in Table 4.3.4.

As explained before, those graduates who found employment as beginning teachers answered *two questions for each criterion variable*. The variable names in Table 4.3.4 ending in letter D (for *dichotomous*) represent the question if the teaching behaviour described occurred in the beginning teacher's work (with value 1 for answer 'yes' and value 0 for answer 'no'). The variable names ending in letter K (for continuous) represent the question how much energy each teaching behaviour required from the beginning teacher (with response categories on 8-point scales ranging from value 0 for the answer 'very little energy' to 7 for the answer 'very much energy').

Concentrating first on the percentages of modal scores found for the dichotomous variables we would like to point out that all of these except one (for LNINSD) are higher than 60. This means that innovative behaviours are either largely absent or relatively widely practised among PDI-RUU graduates. Grouping the variables together according to their modes[15] suggests quite clearly to us what lies behind this finding. Those behaviours which are mostly absent (see also the numbers of valid cases) concern in large part ways of schooling that require existing barriers between classrooms and between schools and society to be broken down (see variables NIKLA, AFWIJRO, VAKINT and PO). Apparently, the cellular structure of schools and the insulations between individual teachers discussed by Lortie (1975) are alive and strong in the Dutch secondary education system.

Another stronghold resisting the advent of modern times seems to be

criterion variable	number of valid cases	percentage of modal scores	mode	mean	SD	SE
NIKLAD	135	63	0			
NIKLAK	53	20.8	1	3.15	2.11	.29
AFWIJROD	135	65.9	0			
AFWIJROK	50	28	5	3.20	2.19	.31
LNINSD	136	52.2	0			
LNINSK	68	20.6	4	3.10	1.88	.23
AFWYBOED	134	75.4	1			
AFWYBOEK	105	20	6	3.99	2.10	.21
EIGMATD	136	91.2	1			
EIGMATK	125	27.2	6	4.71	1.95	.17
NIFASD	132	75	1			
NIFASK	99	25.3	5	3.57	1.85	.19
GROEPSWD	135	62.2	1			
GROEPSWK	86	23.3	4	3.80	1.88	.20
VAKINTD	135	71.9	0			
VAKINTK	44	22.7	4	3.98	2.02	.30
POD	134	71.6	0			
POK	43	20.9	5	3.33	2.15	.33
PROEFWD	132	63.6	1			
PROEFWK	85	22.4	5	4.02	1.93	.21
WOORDRAD	134	90.3	0			
WOORDRAK	17	35.3	0	3.06	2.79	.68
LNPERSD	136	80.1	1			
LNPERSK	109	20.2	4	3.65	1.80	.17
ORDEMOTD	131	85.5	1			
ORDEMOTK	115	23.5	6	4.64	1.78	.17
ANSPANSD	134	82.1	1			
ANSPANSK	112	24.1	4	4.28	1.68	.16

Table 4.3.4 Statistics on the criterion variables in the questionnaire sample (cf. Table 2.2)

the *assessment practices* in the schools. Less than 10% of PDI-RUU graduates have managed to use words instead of numbers to assess pupil achievement in the majority of their classes (see variable WOORDRAD) and, although a majority of them do discuss test results with pupils to an extent that enables them to diagnose learning processes in individual pupils, this appears to require quite some energy from them (see variables PROEFW).

Reaching out to individual pupils, whether beginning teachers try to do this by making learning materials themselves (variables EIGMAT) or by a prudent approach of pupils (see variables LNPERSD, ORDEMOTD and ANSPANSD), emerges from Table 4.3.4 as an educational ideal that quite a few PDI-RUU graduates embrace. However, to realize this ideal they feel a considerable investment is needed (see the means for variables EIGMATK, ORDEMOTK and ANSPANSK especially). In other words, teacher tasks with a strong psychological component, whether they concern learning processes proper or the arena of interaction, appear to represent a focus for the ideals and energies of the beginning teachers studied in this project.

All in all, our impression from these figures is that as far as teaching within traditional classroom settings is concerned, PDI-RUU teacher educators could have done a far worse job than they actually did. For example, for staff it should be satisfying to find that three quarters of those graduates who now work in schools devote parts of their lessons to subject matter which is almost or completely absent from the usual textbooks (variable AFWIJBOED). Or consider the fact that a majority of graduates succeeded in making pupils spend at least half a lesson's time on cooperation in small groups, apparently without having to invest enormous amounts of energy (variables GROEPSW). Is not such activation of pupils something to be delighted about? We must warn readers, however, that more analyses have to be carried out on these criterion variables, before we can draw any definite conclusions about the kinds of teaching which PDI-RUU graduates from the academic year 1982-1983 have actually come to practise.

5. DISCUSSION

As the analyses in this research are still in progress, this section will contain some tentative answers to research questions 1, 2, 3 and 4 (cf. Table 1.2).

Research question 1 concerns the issue of how to make entry into the teaching profession a more gradual experience. The most important conclusions about this issue resulting from the earlier West-German projects upon whose designs we elaborated, are the following. Dann et al. (1978 and 1981) and Hinsch (1979) had operationalized 'innovative teaching competence' in terms of attitudes about the desirability of using discipline measures based on formal authority and power. The label used for this construct was 'control orientation'. The lower this control orientation was in teacher education graduates, the higher their innovative teaching competence was considered to be.

Both of these projects produced empirical evidence indicating that beginning teachers' control orientation was lower to the degree that

a) they had been enabled during their whole preservice programme to confront practical teaching experiences with social-scientific theories in ways that related these theories to the concrete level of their own classroom actions;
b) they had followed specific courses during seminars training them in instructional and/or interactional skills;
c) they had experienced relatively low levels of anxiety in interacting with cooperating teachers who themselves manifested little control orientation towards pupils.

We would like to note that the results reported in sections 4.1 and 4.2 point in the same direction as findings a) and b) above. As we saw, in implementing their programmes PDI-RUU supervisors were concerned about finding the best way of sequencing school-practice and college-based periods with an eye to picking up students' momentary concerns, interests and motivations and thus stimulating in them a transfer of theoretical notions and insights to their actual classroom performance. Günther & Massing, from whose research review we quoted six meanings of 'integration' (cf. section 4.1) also focused their conclusions on the issue of transfer (Günther & Massing 1980, p. 560 ff.).

These authors concluded that college-based training in specific instructional skills (such as microteaching) does not in itself suffice

to produce transfer to the classroom. For this to happen, they write, students should also become knowledgeable enough to decide which instructional procedures are appropriate for use in what kinds of classroom situations (cf. about this point also Kern 1979 and Lowyck 1985). Günther and Massing emphasize that the growth of this kind of knowledge may be critically influenced by the moments at which preservice seminar contents are offered. In 1980, when this review was published, the authors had not yet found any empirical evidence about differential learning effects resulting from different timings of seminar contents.

At this moment we hypothesize that the inductive approaches for sequencing preservice programmes found in our study will appear to have led to different learning effects in beginning teachers, including higher levels of innovative teaching behaviours. However, it remains for further quantitative analyses (see sequence numbers 12 to 14 in Fig. 3.1) to produce more detailed findings about this matter. At any rate, it should be clear that achieving an effective integration of theory and practice in preservice teacher education programmes is not something to be easily realized. This is why we prefer to speak of integrative rather than integrated curricula in referring to programmes which alternate school-practice and college-based periods.

Research question 2 of our study adresses the goals of preservice teacher education. In the PDI-RUU teacher educators distinguish two kinds of teacher competence which they hope students will achieve: *'starting competence'* and *'growth competence'*. The first of these refers to the capacity to survive 'transition shock' during the first year(s) of teaching, the latter refers to ideals of good teaching, which include such diverse elements as sensitive communication with pupils, contributing to school-based curricular initiatives and using activating teaching approaches generally. What we would like to find out in our further analyses is

-- to what kinds of teaching 'starting' and 'growth competence' actually boil down in beginning teachers' classroom performance and
-- how these develop over time.

At present we can only sketch to the reader what sorts of results we expect to find. The following hypothesis is based on our impressions from the observations of and interviews with beginning teachers conducted in this study.

Most beginning teachers in our interview sample seemed to have largely needed their first inservice year to master a number of pressing classroom management problems. 'Growth competence' did not seem to manifest itself seriously until the second year of teaching and then only in *part* of the interview sample. For these latter respondents we hypothesize that 'transition shock' as determined by school environment factors has caused their 'growth competence' to go through a *latency period*. It will be interesting to further analyze which factors in the teacher education programmes under investigation have specifically stimulated or hindered the (re)appearance of this 'growth competence' and what kinds of 'starting competence' are actually at odds with the development of 'growth competence'. In this way, it should be possible to clarify which preservice programme characteristics are promising means for tackling the problem of 'transition shock'.

Research question 3 of this study asked which cooperation structures between PDI-RUU and practice schools are desirable and realizable. Although we could not report results here about the daily cooperation between students, cooperating teachers and university supervisors as it took place in practice schools, we think it is a reasonable hypothesis to say that controlled feedback to student teachers from as many observants of their teaching as possible is the most influential single factor to which learning effects may be traced. To create the conditions in which such feedback will be amply provided is no easy matter, let alone something that may be taken for granted. For a teacher education institute, to uphold a stable set of cooperation structures with a group of well-trained and experienced cooperating teachers in schools is a task that continually meets with financial and ideological obstacles. In these respects the implementation problems reported by Zeichner & Liston (1985, p. 36 ff.) for the elementary student teaching programme at the University of Wisconsin-Madison are strikingly similar to those confronting the PDI-RUU. The importance of these problems will only increase, while the university teacher education curriculum in Utrecht is being extended to a total duration of twelve months.

Stable relationships with cooperating teachers and their schools, which favour the integration of theory and practice within alternating school-practice and college-based periods are not only something to be desired, but also something which the PDI-RUU's recent past has proved to be quite well realizable.

This brings us to *research question 4*, which adresses cooperating teachers' rewards. The historical development of university teacher education in the Netherlands which we described in our introduction may be characterized as one of *professionalization*. To avoid the associations which this term arouses with status-seeking and the elevation of personal prestige we would like to define 'professionalization' in terms of a number of requirements for professional training programmes derived from the work of Lortie.

Lortie (1968; 1969, p. 22-30; 1975, p. 61-74; cf. also Goode 1969, p. 274 ff.) informs us that professional education programmes should meet the following requirements:

a) they should offer a coherent body of explicit and abstract expert knowledge,

b) while being trained the prospective professional should learn to apply this knowledge practically with the support of experienced supervisors and

c) preservice practical training should require the prospective professional to carry out increasingly complex activities in growing autonomy.

The clinical supervision approach introduced by the PDI-RUU during the 1970s clearly comes a long way in meeting these requirements. However, we conclude from the research results in section 4.1 about the consequences of withdrawal of cooperating teachers' fees that the continued implementation of this approach depends critically on the structural availability of financial rewards for cooperating teachers. Failing these, any teacher education institute will have a very hard time trying to guarantee such stable working relationships with cooperating teachers as will maximize constructive feedback to student teachers.

After all, maximizing such feedback is a time-consuming task which requires a considerable investment of personal attention and expertise. Obtaining such investment in return for immaterial rewards only in the way the present Dutch government tries to do is contrary to its own policy objectives, i.e. improving the quality of secondary education. It is mind-boggling to see two billions of guilders being invested in information technology on the basis of no research evidence whatsoever that might have detailed how this money can best be used (Dekker 1987), while at the same time those institutions which prepare the new generations of teachers who should introduce pupils to a hi-tech future, are rather systematically being drained of their resources.

Research question 5 of our study asks for recommendations about the organization and content of college-based and school-practice periods in integrative teacher education curricula. As it is just too early for us to try and answer this question now, we will conclude this paper by pointing out its *main limitation*. This limitation is that no results were reported from component B2 in the research model (see Figure 2.1) about the impact of school context variables on the socialization of prospective and beginning teachers. In carrying out our analyses of these influences we intend to pay special attention to the ways in which student teachers can learn to anticipate the tensions and conflicts with which their future work conditions are likely to confront them.

NOTES

1. University teacher education programmes in the Netherlands were originally organized by faculties for each school subject separately, so that little coordination existed between programmes for different school subjects. The PDI-RUU was the first college of education in the country to achieve such coordination by centralizing programmes in one College of Education. This organizational condition made it possible to include twelve different school subjects in this study.
2. Academic studies in the Netherlands are now being reorganized according to a 'two-phase structure' comparable to the British and American higher education systems. As a consequence, university teacher education programmes will be split into a two-month introductory programme for undergraduate students and a 12-month preservice programme for postgraduate students. Only a quite limited number of students who complete the introductory programme with the best qualifications will be admitted to postgraduate programmes.
3. This research was initiated by the PDI-RUU's Biology department, which appointed the author and surrounded him with a staff committee consisting of H. Bierhof, K. Boersma, H. Créton, S. van den Heuvel and C. Koetsier. After two years of work the project was taken over by the PDI-RUU's central department ALVA. Around that time the function of the staff committee was replaced by professors S. ten Brinke en N. Lagerweij, who supervise this project as a dissertation study.
4. All instruments used were developed through pilot administration and expert comment. The author wishes to thank H. Créton in particular for his comments during the crucial stage of initial data collection.
5. In this paper we can only refer to a few titles from the literature to indicate where our sources if inspiration lie: Freire 1972, Janssen & Wertheim 1984, Nelissen & Vuurmans 1983, Haenen & Van Oers 1983, Guthke 1978, Minick 1985. Cf. also Brouwer 1981.
6. The author wishes to thank S. van den Heuvel for her help in interviewing cooperating teachers.
7. The author wishes to thank S. Cohen for help in observing and interviewing beginning teachers.

8. The author wishes to thank P. Hoop for his help in analyzing cooperating teacher interviews and E. van der Ven for his help in analyzing beginning teacher interviews.
9. This procedure may be traced to the concept of 'grounded theory' introduced by Glaser & Strauss (1967). However, insofar as these authors suggest that researchers may approach their object of study without any theoretical bias, we disagree with their concept. We rather consider such bias an inevitable part of human perception. For how this fact may influence the conduct of interviews see for instance Hopf 1978 and Hopf & Weingarten 1979.
10. 8-point scales were used to avoid 'neutral' scores in the middle of scales which might reduce variance or mistakenly stand for 'don't know' responses, while at the same time offering respondents a range of sufficiently differentiated response categories.
11. Administering the beginning teacher questionnaire in a second round almost a year after the first may of course lead to systematic differences in responses due to variations in respondents' amount of inservice teaching experience. To control for this possibility exact dates for graduation and start of inservice teaching were recorded for each respondent.
12. The complete results of this survey will appear within the next few months in an internal report to the PDI-RUU staff.
13. The earliest source where we found this kind of diagramme is the document describing the PDI-RUU Biology department's first experimental 6-month programme (Keuchenius 1979, p. 8). See for later elaborations Boersma et al. 1980 and 1981 and Van Driel & Koetsier 1984; cf. also Dolné 1976 and Hooymayers et al. 1985.
14. During every academic year the PDI-RUU organizes several staff conferences where practical issues regarding the institute's programmes are discussed. For example, issues discussed in 1986-1987 include the conduct of clinical supervision training for new cooperating teachers; how to prepare student teachers for tasks on the level of school organization and procedures for selecting candidates for postgraduate programmes including ITP (cf. note 2).
15. See for an exmaple of the methodological virtues of straightforwardly watching modes Lortie 1967.

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